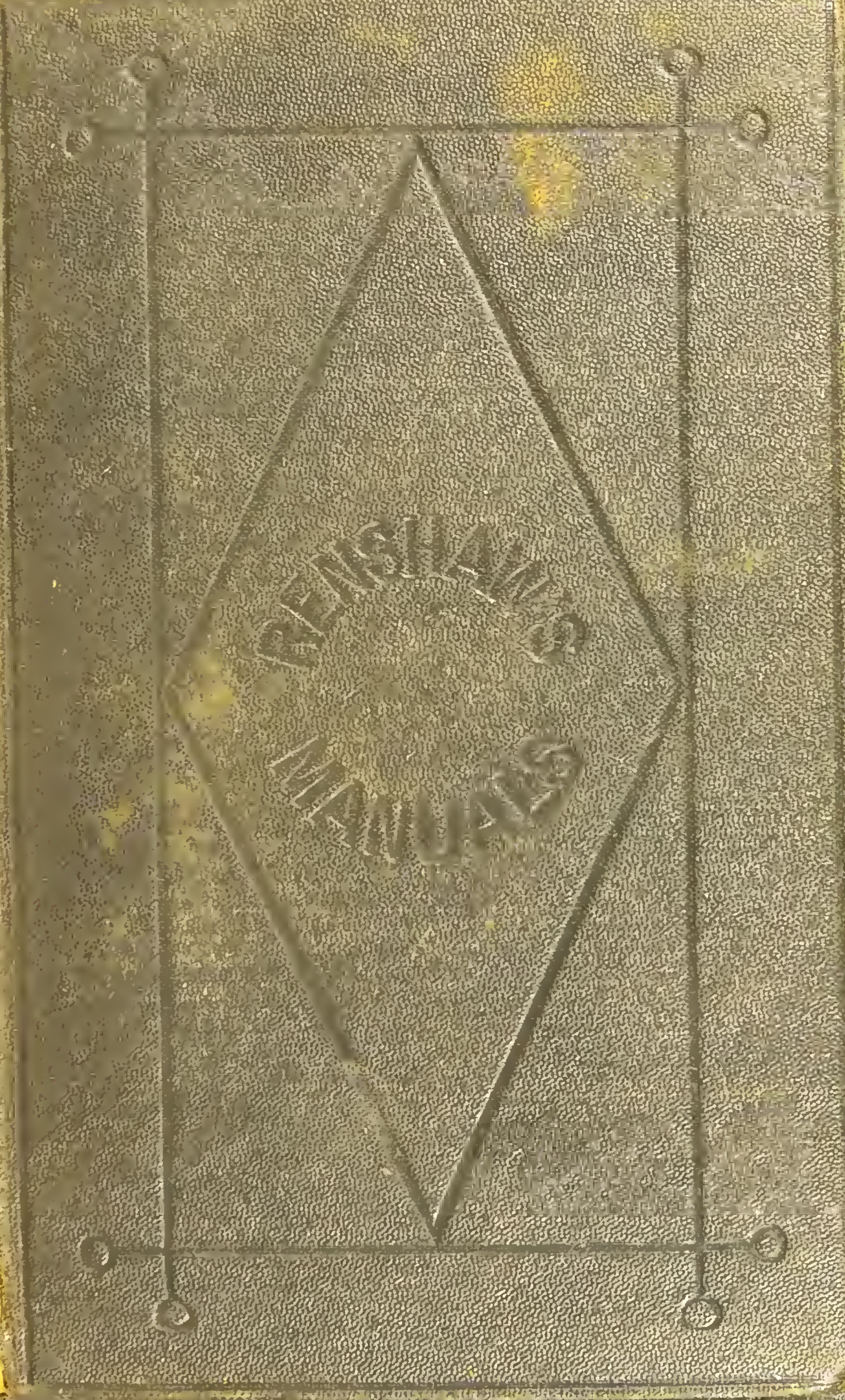

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AN

INDEX OF DISEASES

AND THEIR

TREATMENT.

BY

THOMAS HAWKES TANNER, M.D., F.L.S.

FOURTH EDITION.

REVISED BY

PERCY BOULTON, M.D., M.R.C.P. LOND.

SENIOR PHYSICIAN TO THE SAMARITAN FREE HOSPITAL,
CONSULTING PHYSICIAN TO THE BRITISH HOME
FOR INCURABLES, VICE-PRESIDENT OF THE OBSTETRICAL
SOCIETY OF LONDON, ETC. ETC.

HENRY RENSHAW,
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1891.

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PREFACE TO FOURTH EDITION.

THE Third Edition of "Tanner's Index" has been entirely sold out, and, as the demand for it is still great, a Fourth Edition has been prepared.

In order to bring the work up to date, much has been re-written and every article thoroughly revised. The new matter has been condensed as much as possible, so that the volume might be kept within its original limits. Old-fashioned synonyms and obsolete remedies have been expunged only to make room for more important matter.

The Editor hopes that the above-mentioned alterations in the Fourth Edition will deservedly maintain this handy and practical volume in the place which it has held for so many years.

SEYMOUR STREET, PORTMAN SQUARE, W.
September 1891.

PREFACE TO FIRST EDITION.

THE present volume is intended to facilitate the daily work of the busy practitioner; and especially to help him in successfully managing such cases of disease as do not yield to treatment so readily as might be desired. The student who wishes to learn the nature of the tools with which he will have to work, and the best mode of employing them, must seek for this information in other treatises. But it is hoped that the actual labourer, who has employed his customary weapons and finds himself baffled, will receive useful suggestions from the following pages.

In constructing the various articles of which this Index is composed, the Author has endeavoured, by giving a brief description of each disease, to make its diagnosis sure. With regard to the sections on Treatment, it is to be remembered that the numbers appended to the drugs not only refer to the Formulæ, but indicate those remedies on which it is believed that reliance should be chiefly placed. As a rule, however, most of the agents which have been recommended by different authorities are mentioned; although where they are not deemed particularly useful either no reference is given for the mode in which they are to be prescribed, or they are placed in a separate paragraph.

It is only necessary to add that the Formulæ have been reprinted from the last edition of the Author's *Practice of Medicine*, with a few alterations and additions. Each prescription has been written in accordance with the rules and preparations of the British Pharmaeopœia,—a work which the practitioner will esteem the more highly the more attentively he studies its pages.

HENRIETTA STREET, CAVENDISH SQUARE,
August 1866.

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AN
INDEX OF DISEASES.

ABSCESS OF ABDOMINAL WALLS.—From *Abscedo*, to form an abscess.—Liable to be taken for tumour or peritonitis. May result from external violence; phlegmonous inflammation. Or from extension of disease in other parts:—Inflammation and suppuration around cæcum (perityphlitis), usually from ulceration of cæcum, especially of vermiform appendix, the pus working its way to surface somewhere about right inguinal region.—Suppurative inflammatory action apt to occur in connective tissue of pelvis, especially in delicate and strumous women; abscess afterwards points in one of groins, in hypogastric region, or in vagina, bowel, &c.—Inflammation and suppuration of adipose and connective tissues around one of kidneys (perinephritic abscess) may occur from blows or falls upon back, from calculus, or from derangement of general health. In favourable cases, abscess points in one loin; occasionally pus burrows amongst dorsal muscles, being ultimately discharged into ureter, or into cavity of peritoneum.—A circumscribed abscess may form between liver and diaphragm or in peritoneum, from partial or general peritonitis: the pus, confined by adhesions, either approaches surface at some part of abdominal wall, or bursts into sac of peritoneum, or into bowel, &c.—In all forms, when abscess points, it is to be carefully opened with antiseptic precautions. Strength to be supported by ammonia and bark, or quinine and steel: animal food, milk, cod liver oil, malt liquors.—See *Contusions of Abdominal Walls; Ovary, Inflammation of; Parametritis*, &c.

ACETONÆMIA.—A morbid condition once believed to be due to poisoning of the blood by acetone.—See *Diabetes.*

ACHOLIA.—From 'A, privative; χολή, bile. Synon. *Absence of Bile.*—Arrest of the functions of the liver; so that matters from which bile is formed accumulate in the blood, producing toxæmia.

ACNE.—Perhaps a corruption of 'Ακμαί, pimples on the face at the age of puberty; or from 'A, priv., and κνέω, to itch, because there is an absence of irritation. Synon. *Stonepock.*—A chronic tubercular skin affection, due to blocking of sebaceous follicles by their own secretion (comedo) or to inflammation around the distended follicle (acne); characterized by small isolated pustules, with deep red bases. These pustules, after suppurating and bursting, leave behind them minute and hard red tumours.

VARIETIES. Three kinds,—*acne simplex, acne indurata*, and *acne rosacea:* characteristic distinctions indicated by their names. Acne simplex and acne indurata common about puberty; pimples appear on forehead or sides of cheeks; are very protracted and frequently leave indelible cicatrices. Acne rosacea attacks the nose, is apparently rather an affection of the skin generally than of the glands: often connected with stomach or liver disease: mostly seen in persons of advanced years, especially if they have lived freely, &c.

TREATMENT. Attention to digestive and uterine functions. Pustules should be opened with a needle or lancet. Arsenic, 52. Corrosive sublimate. Green iodide of mercury. Ferruginous tonics and laxatives. Cod liver oil.—Warm bathing. Iodide of sulphur ointment. Simple sulphur ointment or lotion of sulphur suspended in liquor calcis. Calomel ointment. Red iodide of mercury ointment. Application of acid nitrate of mercury to individual spots. In acne rosacea division of the varicose vessels by transverse incisions with a fine sharp knife; at the end of a few minutes painting the nose with tincture of perchloride of iron, so as to produce obliteration of the vessels and contraction of the hypertrophied skin. Removal of the thickened skin has been practised.

ACTINOMYCOSIS.—A disease caused by the presence of the ray-fungus. It sometimes forms a tumour over the lower jaw of slow course and ultimately breaking down. When affecting the lungs it may simulate putrid bronchitis, pneumonia, or phthisis, producing definite complications. It may also attack the mucous membrane of the intestine.

TREATMENT. None of any avail in the visceral forms. Surgical measures for a tumour near the jaw.

ADDISON'S DISEASE.—A peculiar degeneration of the supra-renal capsules. According to Addison the prominent symptoms were a bronze discoloration of the skin and incurable progressive and ultimately fatal anæmia.—See *Supra-renal Capsular Disease.*

ADENITIS.—From 'Αδὴν, a gland; terminal *-itis.* Synon. *Phlegmasia Glandulosa.*—Inflammation of the lymphatic glands may accompany disease of lymphatic vessels, or it occurs independently. Simple adenitis common after eruptive fevers.

Tubercular adenitis very frequently met with in strumous subjects.

SYMPTOMS. *Acute form:*—Feeling of malaise: slight chills: symptomatic fever. One or more glands become swollen, hot, hard, tender, painful. As tumefaction increases, skin over gland becomes red or livid. If convoluted tubes get obstructed, surrounding tissues rendered œdematous. Unless resolution occur, or acute stage subsides into chronic, suppuration takes place: abscess forms in interior of gland, or in surrounding connective tissue.

Chronic variety:—Induration with persistent enlargement. Pain and heat slight. Skin retains its natural colour. Connective tissue unaffected, so that gland remains movable.

Strumous adenitis:—Usually chronic. Glands of neck, and those about base and angle of lower jaw, more frequently affected than any others. Subjects of this form are especially young children, though it is not a rare affection of strumous adults. Rarely any premonitory symptoms: first indication of the disease an indolent swelling of one or more glands. If mischief increase, and especially if there be a tendency to suppuration, system suffers considerably. The already weak patient becomes irritable and restless, tongue gets furred, pulse quick and feeble, bowels costive, appetite fails, urine scanty and loaded with urates. Where general health is very bad, inflamed glands rapidly undergo disorganization; surrounding connective tissue and skin get involved; extensive indolent ulcers result. When lymphatic glands of the mesentery are affected with strumous inflammation, a special form of disease is set up (Tabes Mesenterica).—For Syphilitic adenitis, see *Bubo*. Malignant adenitis, see *Cancer*.

TREATMENT. Carbonate of ammonia, 361. Sulphide of potassium or calcium. Chlorate of potash, 61. Ammonia and bark, 371. Quinine, 379. Quinine and steel, 380. Iodide of ammonium and bark, 38. Phosphate of iron, 405. Cod liver oil. Bromide of ammonium. Hydrochlorate of ammonia. Conium. Iodide of iron. Corrosive sublimate. Red iodide of mercury. Nourishing food: milk or cream. Sea air.—Water dressing. Iodine liniment. Diluted red iodide of mercury ointment. Iodide of lead ointment. Injections into substance of the glands of solutions of iodine and iodide of potassium, or of acetic acid.

AGALACTIA.—From 'A, priv.; γάλα, milk. Synon. *Defectus Lactis; Oligogalactia.*—A diminution or complete absence of milk in nursing women. May be caused by general weakness of constitution; long-continued mental anxiety; exhausting disease; general plethora; acute or chronic disease of breast or nipples; eturn of menstruation while suckling; approach of change of life.

Unless cured, infant must be weaned to prevent its suffering from insufficient nourishment. See F. 427.

AGRAPHIA.—From 'A, priv.; γραφὴ, writing. Loss of the power of expressing ideas in writing. Most commonly a part of Aphasia (which see), but sometimes independently.

AGUE.—From the French *Aigu*, acute.—See *Intermittent Fever.*

ALBUMINURIA, FUNCTIONAL.—The appearance of albumen in the urine of a subject free from the evidence of nephritis, or other visceral diseases, and enjoying fair health.—*Intermittent albuminuria* sometimes occurs with anorexia; *paroxysmal albuminuria*, generally associated with sallowness of the skin and excess of urea in the urine. Excess of albuminous diet produces albuminuria, as also does exhausting exercise in some persons.

Treatment. Farinaceous and milky diet, rest, and mineral acids.

ALCOHOLISM.—Alcohol is a poison which especially affects the nervous centres, liver and kidneys. In a large dose it may destroy life immediately.—See *Delirium Tremens; Dipsomania; Poisons.*

ALOPECIA.—From 'Αλώπηξ, a fox,—because this animal is said to be liable to baldness. Synon. *Baldness; Calvities* (*Calvus*, bald).—Loss of hair may be temporary or permanent. Senile calvities usually takes place gradually: hair first becomes thin on crown of head, or on temples and forehead. A consequence of general loss of power: hair follicles participate in general weakening of nutritive functions. As follicular apparatus gets destroyed, the loss is generally irremediable.

In baldness occurring from debility, hæmorrhages, fevers, tuberculosis, syphilis, &c., the hair follicles remain entire, though inactive. Such cases generally curable.

Treatment. Nourishing food. Quinine and steel, 380. Cod liver oil. Scalp to be well brushed: to be washed with cold water every morning. Hairs which are withered and split to be cut off close to scalp. Blisters. Ammonia and cantharides liniment, 287. Cantharides, castor oil, balsam of Tolu, &c., 287. Iodide of sulphur ointment, 310. Creosote and sulphur ointment, 310. Diluted iodine liniment. Diluted liniment of cantharides. Solution of ammonia. Liniment of turpentine and acetic acid. Balsam of Peru. Glycerine. Oil of rosemary (Oleum rosmarini).

ALOPECIA AREATA.—Synon. *Tinea Decalvans.*—A disease in which the hair falls off suddenly in patches, leaving the skin peculiarly smooth and thin; hair roots wasted. Cause uncertain, whether parasitic or neurosal. Very obstinate; sometimes every hair of body lost: eyebrows, whiskers, &c.

Treatment. The faradic brush; blistering fluid; stimulant ointments or liniments. Good food; arsenic; tonics.

AMENORRHŒA.—From 'A, priv.; μὴν, a month; ῥέω, to flow. —An absence of the menstrual flow. The uterus or ovaries may be found to be absent or rudimentary; amenorrhœa may be due to pregnancy, the menopause, or tardy menstruation — Two varieties:—

1. **Retention of Menses.**—The catamenia are secreted, but do not escape externally. May arise from occlusion of vagina; from an imperforate os uteri. Menses accumulate in uterine cavity, forming in time an appreciable abdominal tumour. An outlet must be made for the menstrual accumulation by very cautiously incising or puncturing obstructing membrane. Antiseptic injections to be employed afterwards. All such operations attended with danger.

2. **Suppression of Menses.**—Most common form of amenorrhœa. The flux having been properly established, and having appeared regularly for a longer or shorter time, becomes prematurely arrested.

May occur suddenly, while discharge is on, from mental shock, setting in of acute disease, exposure to damp or cold. Or takes place gradually; flow not returning at proper time, or becoming less and less for several periods and then entirely stopping. More constitutional disturbance in abrupt than gradual suppression. Latter most to be feared, as often indicative of more serious cause (severe anæmia, phthisis, albuminuria, &c.). Care necessary not to overlook pregnancy.

TREATMENT. *If there be plethora:*—Nitric acid, taraxacum, and senna, 147. Aloes, senna, and sulphate of magnesia, 150. Gamboge, aloes, and blue pill, 174. Podophyllin and aloes, 422. Nitre, spirit of juniper, and nitrous ether, 221. Iodine. Iodide of potassium, 31. Bromide of potassium, 422. Ergot of rye. Hot hip baths. Mustard pediluvia. Three or four leeches, repeated at intervals, to cervix uteri, or to the vulva in a virgin. Turkish baths. Simple diet. Exercise in the open air. Avoidance of stimulants. *If there be anæmia:*—Steel, nux vomica, and aloes, 154, 393, 404. Steel and ammonia, 401. Quinine and steel, 380. Steel and pepsine, 394. Permanganate of potassium in pill with kaolin ointment. Mustard pediluvia. Nourishing food. Brandy; gin; wine; stout. Waters of Spa, Ems, Schwalbach.

AMNESIA.—From 'A, priv.; μνῆσις, remembrance. Forgetfulness, or loss of memory. The term is often applied to a form of aphasia. A prominent symptom in certain cerebral diseases, &c.

AMYLOID DEGENERATION.—From *Amylum*, starch; *Degenero*, to degenerate. Synon. *Amyloid, Lardaceous, Waxy Albuminous Infiltration.*

The formation in the tissues of certain organs of a firm translucent substance turned rich brownish red by solution of iodine: most frequent in spleen, kidneys liver and stomach. The inner and middle coats of the blood-vessels are the tissues first attacked.

When liver, spleen, or kidneys are organs affected, they become large, firm, heavy, and on section glistening. When a liver is incised where amyloid degeneration is far advanced, a feeling is communicated like that experienced on passing a knife through wax: cut surface presents a semi-transparent appearance. The gland is increased in size ; has some resemblance to a fatty liver, but its greater weight and firmness on handling distinguish it. If disease be very extensive, no trace of normal structure can be distinguished, though in an earlier stage the lobules are seen distinctly mapped out, owing to the matter being deposited within the lobule and in and among secreting cells. Patients gradually assume a cachectic, broken-down appearance ; lose flesh and strength ; dropsy often supervenes ; urine gets albuminous if kidneys be affected ; diarrhœa sets in when digestive tract is involved ; and in spite of remedies death soon takes place.

Amyloid degeneration is most commonly met with as a secondary consequence of prolonged suppuration, phthisis, tuberculosis, disease of bones, and syphilis.—See *Hepatic Degenerations ; Renal Degenerations*, &c.

ANASARCA.—From 'Ανὰ, through ; σάρξ, the flesh. Synon. *General Dropsy.*—The more or less general accumulation of serum in the meshes of the connective tissue throughout the body. May arise from heart or kidney disease, occasionally from disease of lung.

TREATMENT. According to disease by which it is caused. Compound jalap powder. Compound scammony powder. Elaterium, 157. Acid tartrate of potash, 228. Strophanthus. Digitalis and squills, 219. Oil or spirit of juniper, 229. Colchicum. Tartarated iron.

Warm bath. Turkish bath. Bloodletting. Dry cupping to loins. Acupuncture. Issues.—See *Œdema ; Dropsy.*

ANÆMIA.—From 'A, priv.; αἷμα, blood. Synon. *Hydræmia.* —Deficiency or poverty of blood. The red globules, instead of existing in the proportion of 130 per 1000 parts of blood, as in health, are reduced to 80, 60, or even less. The liquor sanguinis is also poor in albumen, and may contain an excess of salts.

SYMPTOMS. A pale, waxy, blanched appearance of integuments and mucous membranes. Feeble, rapid pulse. Anorexia. Aortic and pulmonary systolic murmurs. Bruit de diable in jugular veins. Enlargement of thyroid. Proptosis oculi. Attacks of fainting. Palpitation and dyspnœa. Œdema, and dropsical effusions into pleura, pericardium, or peritoneum. Amenorrhœa. Occasionally, fatal syncope or coma.

TREATMENT. Iron, 380, 392, 393, 404, 412. Chemical food, 405. Bark, 371, 376. Manganese. Arsenic, 381, 399. Phosphorus, 417. Aloetic aperients, with or without steel, 148, 393, 404. Pepsine, 394, 420. Peroxide of hydrogen increases the power of ferruginous tonics. Inhalation of oxygen. Alkaline hypophosphites. Nourishing food:—Milk; raw eggs; brandy and egg mixture, 17; restorative soup, raw meat, 2; essence of beef, 1; malt flour, &c., as in Liebig's food, 5; fish; poultry; roast beef and mutton; bitter ale; wine. Cod liver oil, 389. Sea air. Mineral waters of Spa, Schwalbach, Brukenau, Franzensbad. —See *Chlorosis*.

ANÆMIA, Essential or Pernicious.—A form of anæmia usually coming on without assignable cause in middle life, especially in women. Bloodlessness extreme, and corpuscles not only few in number but deformed. The pallor accompanied by peculiar yellow, sallow appearance of face. Patient liable to attacks of feverishness, and to gastric and intestinal derangement. Often plump and fat to the last.

TREATMENT. Iron useless. Best remedies arsenic and phosphorus.

ANÆSTHESIA. From 'Α, priv.; *αἰσθάνομαι*, to feel. Synon. *Analgesia.*—Paralysis of sensibility.—See *Paralysis.*

ANGINA PECTORIS.—From Ἄγχω, to strangle; *Pectus*, the breast. Synon. *Orthopnœa Cardiaca; Cardioneuralgia; Cardiac Apnœa; Suffocative Breast-pang.*—A disease in which severe pain is felt about the sternum, extending towards the arms, with a sense of strangulation and great anxiety. Occurs most frequently in advanced life. More common in men than women. Has been found associated with valvular disease or fatty degeneration of heart; but more usually in connection with diseased coronary arteries.

SYMPTOMS. Paroxysms of intense pain about præcordial region, and sometimes down the left arm to the fingers' ends; feeling of suffocation; fearful sense of impending death. Seizure rarely lasts more than one or two minutes. May come on at any time: if patient be walking he is obliged to stop immediately. Breathing short and hurried; countenance pale and anxious; surface of body cold, perhaps covered with clammy sweat; consciousness unimpaired. As struggle passes off, patient regains his usual health; often appears quite well. Heart sounds may be normal. If death do not occur in an early seizure, it generally does so in some subsequent attack.

TREATMENT. *During paroxysm:*—Brandy or wine. Ether, chloroform and ammonia, 85. Hydrocyanic acid, soda, and morphia, 70. Far the best treatment is inhalation of ether or chloroform; or of *nitrite of amyl, five drops on lint;* a convenient form is capsules which can be broken. Nitro-glycerine, $\frac{1}{100}$ gr. (one drop of a one-per-cent. solution). Hypodermic injection of morphia. Sinapisms. Turpentine stupes. Friction. Flying blisters. Cold lotions to forehead.

During interval:—Animal food; milk or cream; light wines. Nitro-glycerine, $\frac{1}{100}$ gr. three or four times a day for several weeks, afterwards gradually increased to $\frac{1}{20}$ or $\frac{1}{10}$ gr. Iodide of potassium often valuable. Mineral acids and bark, 376. Quinine and steel, 380. Quinine and belladonna, 383. Steel and pepsine, 394. Phosphate of iron, 405. Zinc and nux vomica, 409. Valerianate of zinc and belladonna, 410. Sulphate of zinc and aconite, 413. Phosphate of zinc, 414. Sulphur. Quinine. Belladonna plaster over præcordia. Avoidance of cold, stimulants, strong exercise, walking soon after meals, sexual intercourse, and mental excitement.

ANOREXIA.—From 'A, priv.; ὄρεξις, appetite. Synon. *Inappetentia.*—Loss of appetite is a common symptom in most diseases. When present without apparent cause, attempts must be made to give tone to digestive organs. Mineral acids, pepsine, rhubarb, aloes, quinine, salicine, and bitter vegetable tinctures or infusions are the chief remedies.

AORTIC ANEURISM.—From 'Αορτὴ, the great artery: 'Ανευρύνω, to dilate.—*Varieties :*—*Fusiform* aneurism, in which all the coats of artery dilate and unite in forming walls of pouch; *saccular* aneurism, in which inner and middle arterial tunics being ruptured, walls are formed by cellular coat and contiguous parts. It forms a globular projection from one side of the vessel, with a more or less constricted neck. This form of aneurism sometimes ruptures, and the blood which oozes out into the tissues around coagulates and becomes bounded by inflammatory tissue, and is then called *diffused.* When the two inner tunics are ruptured, and blood forces its way between them and outer coat by a kind of false passage, so as to form a spreading diffused tumour, disease known as a *dissecting* aneurism. Lastly, *varicose* aneurisms are those where a communication has formed between aorta and either of the venæ cavæ, or between aorta and one of auricles, or between this vessel and right ventricle, or between aorta and pulmonary artery.

Aortic aneurism, a disease of advanced life, rather than of youth; more common in men than in women; often results from calcareous deposits, or from atheromatous or fatty degeneration of coats of vessel; sometimes from syphilitic disease, and consequently other vessels are not uncommonly found affected at same time. May be produced in young subjects by strain or by pressure on chest of belts and straps, as in soldiers. Death may result from internal or external hæmorrhage owing to rupture of sac; or sudden death may occur without any rupture (as from suffocation); or, more commonly, there may be gradual sinking from exhaustion caused by long-continued suffering, or from the effects of pressure on the lungs or other organs, or from debility brought about by repeated escape of small quantities of blood, or from co-existent tubercular consumption.

1. **Aneurism of Thoracic Aorta.**—Chiefly met with in ascending portion, or in transverse part of arch.

SYMPTOMS AND PHYSICAL SIGNS. In early stage obscure, partly because they resemble those caused by heart disease. When tumour is of some size and has been quickly developed, there is disturbed action of heart with some modification of radial pulse; pain about the chest and back, most constant and severe when erosion of bones of spine or sternum or ribs is going on. The principal physical signs are pulsation in situations where none exists naturally, intensification of the aortic second sound, diastolic shock, perhaps murmurs; dulness on percussion over portion of vessel from which aneurism springs. Supposing aneurismal tumour becomes very large and pulsating, and rises out of chest, producing protrusion or absorption of sternum and ribs, then the diagnosis is easy. Pressure symptoms, inequality of the pupils or radial pulses, cough, dyspnœa, &c., depend much on situation of aneurism, and whether pressing parietes, nerves, blood-vessels, air-tubes, œsophagus, or lung.

When the sac presses upon trachea there are dyspnœa and cough; when on one or both recurrent laryngeal nerves, cracked voice or complete aphonia with troublesome cough, severe paroxysms of laryngeal suffocation, and pain coming on at intervals; when on œsophagus, dysphagia and symptoms of stricture; when on superior vena cava, great fulness of veins of head, neck, and upper extremities, perhaps with œdema; when on thoracic duct, inanition and engorgement of absorbent vessels and glands; when on root of one or other lung, cough, wheezing, dyspnœa, absence or modification of respiratory sounds. When an aneurism of ascending aorta is in immediate neighbourhood of the heart, patient often suffers from angina pectoris; when aneurism involves origin of innominate artery, right, if origin of left subclavian left radial pulse may be weakened or extinguished. Aneurism of descending aortic not easily detected; liable to give rise to severe pain round chest from pressure on intercostal nerves; may compress rest of lung.

Amongst other symptoms,—contraction or dilatation of pupil on affected side, according as pressure is sufficient to paralyse, or only irritate, branches of sympathetic nerve. Frequently diastolic shock felt or heard, or aortic second sound greatly intensified and sonorous. Sometimes a bellows-sound detected. If the heart be compressed by tumour, so as to impede normal action of valves, a systolic or diastolic bruit will result. Pressure on aorta, or on pulmonary artery, may also produce a murmur. In saccular aneurism there is sometimes a murmur both with entrance and exit of blood into sac; or there may be one loud and prolonged and rasping bruit, from passage of blood over roughened inner surface of vessel. Murmur not always present. In true aneurism or mere dilatation of a part of the wall, murmurs seldom audible, but a roughened state of arterial tunics from degeneration or from atheromatous deposits, will give rise to a bruit. In both forms, when a murmur exists, a peculiar thrilling or purring tremor may be felt.

Death may occur from rupture externally, or into pericardium, or either pleural cavity, or into trachea, œsophagus or a bronchial tube. Or patient may die from exhaustion consequent on long-continued suffering. Or there may be destructive inflammation of lung, owing to compression of pulmonary vessels, or to pressure on pneumogastric nerve.—Very rarely, cure has resulted from solidification of fibrin.

TREATMENT. The same as for Aneurism of Abdominal Aorta.

2. **Aneurism of Abdominal Aorta.**—Often gives rise to acute pain in lumbar region, shooting into either hypochondrium and downwards into thighs and scrotum. Pain aggravated by constipation: often relieved by lying on face. A tumour discovered by careful examination: constant and powerful pulsation communicated to hand. A short, loud, abrupt bellows-sound may be heard.

TREATMENT. *General Rules*:—In aortic aneurism, all bodily and mental excitement must be avoided. Pain, cough, dyspnœa, and other prominent symptoms to be alleviated. Generous reparative diet to be allowed: sherry, Bordeaux, Rhine, or Hungarian wines, brandy or whisky and water in small quantity; avoidance of malt liquors. Reduction of quantity of blood that the heart has to act upon by limiting the daily quantity of fluids taken to a pint (Sibson). Attention to be paid to digestive, secreting, and excreting functions.

Curative:—When definitive cure attempted, absolute rest in bed necessary, food to be taken in small quantities at short intervals, liquid being restricted to eight ounces a day as recommended by Mr. Tufnell; bowels to be kept open. Iodide of potassium, in large doses most successful, 31. *Locally*:—Ice. Electricity. Electro-puncture. Belladonna plasters. Puncture with a small trocar and cannula, and introduction of fine iron wire or horse-hair through latter, so as to afford an extensive surface on which fibrin may coagulate is dangerous. In aneurism of arch, ligature of left subclavian and carotid. In abdominal aortic aneurism, pressure with a tourniquet for several hours, patient being kept under influence of chloroform (William Murray). Valsalva's plan of frequent bleedings, while patient is kept on lowest possible diet, not to be recommended.

Palliative:—Opium. Morphia. Subcutaneous injection of morphia, Belladonna. Indian hemp. Camphor. Assafœtida. Spirit of ether or chloroform. Bromide of potassium, chloral or sulphonal. Tracheotomy, if suffocation threaten. Small bleedings, where there is great pulmonary congestion, or severe pain.

AORTITIS.—From 'Αορτὴ, the great artery; terminal *-itis*. Synon. *Inflammatio Aortæ*.—Acute inflammation of aorta a very rare affection. Probably a blood disease: allied to rheumatism, like pericarditis and endocarditis.

SYMPTOMS. Very obscure. General uneasiness. Rigors followed by fever. Orthopnœa, with frequent sense of suffocation. Pain and violent pulsation in vessel. Great palpitation. Sometimes, a loud systolic bruit. Pulse often unaffected.

TREATMENT. Iodide of potassium. Colchicum. Aconite. Opium. Spirit of ether. Spirit of chloroform. Warm baths. Dry cupping over spine. Ice to spine. Blisters.

Coats of aorta may undergo structural changes; either as result of chronic inflammation, or of a simple degeneration of tissues. Calcareous or ossific, and atheromatous or fatty degenerations, most frequently met with in advanced life, although they may occur at an earlier period.

APHASIA.—From 'A, priv.; *φάσις*, speech.—A loss of the faculty of speech; almost always accompanied by loss of writing, and in some very severe cases by loss of the power of conveying ideas by gestures or signs.

Aphasia sometimes transitory, as occasionally during an attack of cholera, or during convalescence from severe attack of fever, when it may be owing to cerebral congestion or anæmia. It may be permanent, and due to softening of brain from embolism or thrombosis, or more rarely to cerebral syphilis or tumour, or to hæmorrhage. When lesions exist they usually affect the posterior portion of the third frontal convolution of the brain, on the left side. Aphasia is very frequently associated with right hemiplegia.

SYMPTOMS. Sudden or gradual deprivation of power of speech. Patient understands all that is said but cannot say a word, or only "yes" and "no." He may talk jargon. or perhaps one or two words can be uttered quite distinctly, which are then spoken in reply to all kinds of questions. In other cases several words are recovered and employed more or less appropriately, or again emotional expressions may be uttered with fluency, which cannot be repeated in cold blood. Face intelligent. Movements of lips and tongue and larynx healthy. There may be consciousness of what is wished to be expressed, and yet complete inability to express the thoughts by speech, writing, or even (occasionally) by gestures. Aphasic patients know the use of objects, though they cannot name them. Moreover, they can often play correctly at cards, backgammon, dominoes, &c. They can perhaps read; but frequently if they understand what they peruse they forget directly, as they will pore over the same page again and again. There is the greatest possible diversity, however, in the degree of impairment of the mental powers. They can often copy written or printed words when unable to write a syllable spontaneously or from dictation.

TREATMENT. Will depend upon cause. Recovery may occur spontaneously. If due to hæmorrhage, improvement may take place as clot absorbed; when to local softening after embolism, no treatment effectual. In cases dependent on syphilis, iodide of potassium is the remedy. Cases have occurred in which a patient has learnt over again to speak, as a child learns.

APHONIA.—From 'A, priv.; φωνὴ, the voice.—Loss of voice, from organic or functional disease of vocal cords, varies in degree from a slight impairment to complete dumbness. It is either temporary or permanent.

VARIETIES. Aphonia may be due either to functional disorder, or to structural change.

(1) *Functional variety*:—Hysterical aphonia typical. Generally allied with other symptoms indicative of its nature. In women, uterine functions frequently disturbed: irritation of one or both ovaries often present, Leucorrhœa: amenorrhœa, or sometimes menorrhagia.—Patient speaks in a whisper for days together. Then power returns, but relapses are common.—Aphonia from fright occurs in men as well as in women.—If functional aphonia be of long continuance, the vocal cords will probably become flaccid and powerless. An examination by laryngoscope shows a paralytic condition of cords. Faradization very useful.

(2) *Organic form*:—Caused by inflammation, serous infiltration, cancerous, or syphilitic or tuberculous ulceration of mucous membrane about vocal cords; conditions detected by laryngoscope. May also arise from pressure of morbid growths in or near larynx, or of aneurism or tumour on recurrent laryngeal nerves; or from disease of brain, producing paralysis of muscles of larynx, on normal action of which the tension and position of vocal cords depends (bulbar paralysis).

TREATMENT. *If functional*:—Quinine and steel, 380. Quinine and nux vomica, 387. Compound iron mixture with aloes, 393. Phosphate of iron, 405. Strychnine and steel, 408. Zinc and nux vomica, 409. Valerianate of zinc, 410. Nourishing food. Galvanism. Spray of astringent fluids, 262. Shower baths. Moral influence.

When organic:—For cure of inflammation and ulceration about vocal cords, sponging with solution of nitrate of silver (gr. 40 to fl. oz. j). When syphilitic, iodide of potassium to be also given. Spray of astringent fluids, 262. Scarification, in œdema of glottis. Removal of polypi or other growths by wire écraseur. Ferruginous tonics. Cod liver oil, &c. For loss of the faculty of expressing the thoughts by speech, see *Aphasia*.

APHTHÆ OF MOUTH.—From Ἅπτω, to fasten upon. Synon. *Stomatitis Exudativa; Muguet; Thrush.*—Aphthæ consist of small, round, white elevated specks or patches, scattered over tongue and lining membrane of mouth, and sometimes extending down œsophagus. Forms a special disorder in infancy—the *thrush*: in adult age, aphthæ often produced in course of prostrating disease.—Two microscopical parasitic plants—*Leptothrix buccalis* and *Oidium albicans*—developed in large quantity in and between epithelial cells of mucous membrane; filaments and spores of these fungi render epithelium friable, loose, and swollen.

SYMPTOMS. Restlessness. Debility. Cough. Difficulty in swallowing. Vomiting. Diarrhœa. Where aphthous spots are abundant they may coalesce, forming a dirty diphtherial-looking membrane.

TREATMENT. Application of borax and glycerine, 250. Application of sulphite of soda (gr. 60 to water fl. oz. j) or carbolic acid. Mild astringents. Bark and port wine. Chemical food, 405. Cod liver oil. Chlorate of potash. Pure milk. Liebig's food, 4. Restorative soup, 2. Beef-tea.

APOPLEXY.—From 'Απὸ, by means of; πλήσσω, to strike,—because, in typical cases, those attacked fall down as if from a blow. The term descriptive of the symptoms, but often employed as if synonymous with hæmorrhage. A state of coma, occurring presumably from pressure on the brain, the compressing power having its seat within the cranium. There is loss of sensation, thought, and power of voluntary motion; with more or less severe disturbance of respiration and circulation.

WARNINGS. Apoplexy seldom occurs without some previous threatenings, such as:—Headache and giddiness, experienced particularly on stooping; feeling of weight and fulness in head; noises in ears, temporary deafness; transient blindness, or sometimes double vision; repeated epistaxis; fits of nausea; occasional sense of numbness in limbs; loss of memory; great mental depression; incoherent talking; drowsiness; indistinctness of articulation: and partial paralysis, affecting a limb, or muscles of face, or eyelids.

Certain individuals predisposed:—Those whose ancestors suffered from it; men of a peculiar habit of body, of sedentary habits, accustomed to high living, with protuberant bellies, large heads, florid features, and short thick necks; and individuals advanced in life, beyond fifty. A predisposition to hæmorrhage. Apoplexy is also engendered by disease of kidneys, heart, or cerebral blood-vessels; by gout, by intemperance; and by cessation of habitual discharges. Embolic apoplexy, by heart disease.

MODES OF SEIZURE. Commences in three different ways:—In *first*, patient falls down suddenly, deprived of sense and motion; lies like a person in deep sleep. Face generally flushed. Breathing stertorous. Pulse full and not frequent, occasionally below natural standard. Sometimes convulsions; or rigidity and contraction of muscles of limbs, perhaps only on one side (Abercrombie).

In *second* form, coma not the first symptom. Complaint made of sudden pain in head. Pallor, sickness, faintness. Sometimes vomiting. Frequently, patient falls to ground in a state resembling syncope. Occasionally, instead of falling, the sudden pain is only accompanied by slight and transient loss of consciousness. After a few hours, headache continuing, he becomes heavy and oppressed and forgetful: gradually sinks into complete coma, from which recovery is rare. A large clot usually found in brain. (*Ingravescent Apoplexy.*)

Third variety begins by symptoms of cerebral hæmorrhage. There is an attack of paralysis of one side; sometimes deprivation of power of speech, but no loss of consciousness. The paralysis may pass into coma; or it may remain without further urgent symptoms; or it may slowly go off and patient recover; or it may pass off and death occur suddenly some hours or days subsequently, from return of hæmorrhage. See *Cerebral Hæmorrhage.*

PHENOMENA DURING FIT. Duration of apoplectic fit varies from two or three hours to as many days. Partial or total unconsciousness. Pulse, at first generally small, becomes full and strong, according as system recovers from shock; it is usually slower than natural, sometimes intermitting. Respiration slow, embarrassed, often accompanied by stertor; frothy saliva about mouth.—In bad cases, body covered with cold clammy sweat; face pale; eyes dull and glassy, with dilatation of one or both pupils according as pressure is on one or both sides; teeth firmly clenched, and all power of deglutition lost or much impeded; stertorous breathing. Bowels torpid, or motions passed involuntarily. Involuntary micturition; or retention of urine, until bladder becomes distended and overflows, causing urine to be constantly dribbling away. When patient recovers incompletely, hemiplegia often remains.

The comatose condition may cease in one of three ways:—It may gradually pass off, leaving patient well; or it may terminate in incomplete recovery, mind being impaired, or some parts of body paralysed; or it may end in death. In latter case, on examining the brain we find either no appearance whatever of disease; or extravasated blood is discovered in ventricles, or pons Varolii, or to large amount in centrum ovale majus, or in sac of arachnoid; or there is copious effusion of serum into ventricles or beneath arachnoid, with or without cerebral softening. That which is fatal without leaving any traces, which is very rare, has been called *nervous* or *simple* apoplexy; the second, *sanguineous* apoplexy, or *cerebral hæmorrhage;* the third, *serous* apoplexy. In serous apoplexy, so called, the serum is often simply present from senile cerebral atrophy, and has no relation to the attack. Apoplexy may also result from embolism. During life it may be impossible to distinguish by the symptoms these varieties.

TREATMENT. *Prophylactic.*—Where predisposition is suspected, it is necessary to warn patient against strong bodily exertion; venereal excitement; stimulus and irritation of any approach to drunkenness; heavy meals; violent mental emotion: exposure to extremes of temperature; constipation and straining at stool long-continued stooping; tight neckcloths; and hot baths. Diet to be moderate. Bedroom to be cool and well ventilated; to sleep on a mattress, with head high. Daily exercise in open air. Head to be washed in morning with cold water. Where there is giddiness, or epistaxis, or headache, or throbbing of arteries of head, a few doses of an active purgative will be useful; perhaps, blisters or seton to nape of neck. Leeches to sides of anus, where the threatening seems due to the suppression of some accustomed discharge.—Where there is anæmia, bark and mineral acids, or small doses of steel; with good easily digested food, and plenty of milk.—Arsenious acid (gr. $\frac{1}{30}$—$\frac{1}{12}$ twice daily) in combination with liquor potassæ has been recommended.

Curative:—The rule is, after an attack, "to obviate the tendency to death" (Cullen). If tendency be towards death by coma; if pulse be full, hard, or thrilling; if vessels of neck are congested; if face be flushed and turgid,—general bleeding or cupping from nape of neck may be called for. When there is stertor the patient to be turned on his side. Contrariwise, if patient be dying from syncope, with a feeble or almost imperceptible pulse, and a cold clammy skin,—then bleeding will only ensure a speedily fatal termination. Bleeding sometimes employed to prevent increase of extravasation; but this remedy must be resorted to with great caution, since it is not always easy to distinguish hæmorrhage from embolism.

Patient to be removed into a cool and well-ventilated room. Head to be raised. All tight parts of dress to be loosened, especially cravat and shirt collar. Cold to the head by means of pounded ice in a bladder. If power of swallowing remain, calomel and jalap, followed by common black draught, 140. Where deglutition is impossible, two or three drops of croton oil on back part of tongue. Stimulating and purgative enemata, 189, 190, 191. Pediluvia containing mustard. Blisters to scalp, or nucha, seldom of benefit in any stage, and never at early period. Emetics only useful where attack is due to overloaded stomach.

In event of recovery:—Great care needed to prevent a second fit. Strong medicines, great excitement, severe mental occupation to be avoided. Bowels to be kept open. Simple but nutritious diet; fish; meat in moderation; milk. Light French, German, or Hungarian wines.

ARGYLL-ROBERTSON PUPIL.—A term applied to a condition where the pupil no longer contracts under the stimulus of light, but still contracts during accommodation for near vision. It is observed in Locomotor Ataxy (which see).

ASCITES.—From 'Ασκὸς, a wine-skin or leather bottle,—because of the swollen condition of the belly. Synon.:—*Hydrops Abdominis; Hydroperitoneum; Dropsy of the Peritoneum.*—Fluid usually serous, in peritoneal cavity.

May be due to cirrhosis of liver; amyloid degeneration or cancer of this organ; obliteration of portal vein; all of which produce effusion by obstruction to the portal circulation; or to subacute or chronic peritonitis; malignant disease of omentum; enlargement of spleen. In all the cases above enumerated, ascites is a local dropsy; it is often, however, part of a general dropsy arising from renal disease, or disease of the heart or lungs. Cirrhosis on the one hand, and kidney disease on the other, are the most frequent causes.

Ascites is frequently associated with tumours which either press on the trunk of the portal vein as enlarged glands, cancer of liver, hydatid, abscess, &c., or with renal or ovarian tumours, especially if malignant; also in some uterine fibroids with irregular surface irritating the peritoneum. In the case of a large, thin, unilocular ovarian cyst with ascites the diagnosis is not always easy.

SYMPTOMS. Characteristic appearance of patient. Upper part of body wasted, features pinched, countenance very anxious: abdomen greatly enlarged, integuments shining, superficial veins dilated. Fluctuation and vibration: shifting resonance on percussion. In advanced stage, dyspnœa: respiratory murmur cannot be heard as low down as in health: tubular breathing in interscapular regions, especially towards left: apex of heart elevated, and rather pressed to the left. Commonly, anasarca of lower extremities: more rarely, and chiefly in renal dropsy, œdema of face and arms. Urine scanty, often loaded with urates: in ascites from cirrhosis it generally contains bile; in that from renal disease, albumen. Increasing deterioration of general health. Weakness and emaciation. Loss of appetite. Sleeplessness. Inability to lie down. Exhaustion: ending fatally when the dropsy is due to organic disease.

TREATMENT. The fluid is to be got rid of by purgatives and diuretics while the morbid condition to which it is due is also treated. As purgatives: Compound powder of jalap. Acid tartrate of potash. Pill of colocynth and hyoscyamus. Elaterium, 157. Resin of podophyllum, 160. Croton oil, 168. Gamboge with aloes and blue pill, 174. Calomel and jalap, 159. As diuretics: Acetate of potash, squills, and broom, 219. Solution of potash, nitrous ether, and digitalis, 220. Spirit of juniper, nitrous ether, and winter-green, 221. Digitalis and squills, with blue pill or taraxacum, 219, 224. Copaiba or its resin. Nitric acid, nitrous ether, and taraxacum, 147. Acid tartrate of potash and buchu, 222. Nitrate of potash and nitrous ether, 212. Conium, digitalis, and calomel, 230. Hydrochlorate of ammonia, 60. Iodide of potassium, 31. Iodide of iron, 32. Corrosive sublimate, 27. Nitro-hydrochloric acid, 378. Colchicum, 46. Tincture of perchloride of iron. Phosphate of iron, 405. Quinine and steel, 380. Steel and ammonia, 401, 403. Warm baths. Vapour baths. Turkish bath. Tapping (especially in cirrhosis of liver). Acupuncture. Pressure.

As a rule, in dropsy from renal disease, all preparations of mercury are injurious, and diuretics must be employed cautiously: baths especially useful. Mercurials pernicious where there is anæmia: compound jalap powder, hot air baths, and preparations of steel very valuable.—See *Dropsy.*

ASTHENOPIA.—From 'A, priv.; σθένος, strength; ὤψ, the eye. Weak-sightedness, from fatigue of muscular system of accommodation.

Symptoms. The eyes appear normal. Inability to read or write for any length of time: letters become indistinct, and words seem to run into each other. The eyes ache or get very tired. Muscæ volitantes. Headache. If unrelieved, the eyes become useless for continued work.

Treatment. May be cured by use of proper glasses. If anæmia exists give ferruginous tonics, sea air, good food.—See *Astigmatism*, *Hypermetropia*, and *Myopia.*

ASTHMA.—From 'Ασθμάζω, to gasp for breath. Synon. *Spasmus Bronchialis.*—Phenomena dependent on tonic contraction of circular muscular fibres of bronchial tubes; often associated, however, with bronchial catarrh and caused by this condition. Paroxysms induced by direct or reflex mechanism—*i.e.*, the stimulus to contraction may be irritation of the bronchial mucous membrane, or it may be in the medulla oblongata; or it will be in pulmonary or gastric portion of pneumogastric, or in some other part of nervous system besides the vagus, and being transmitted to medulla oblongata by incident, is thence reflected by motor filaments. It may also be due to conditions affecting the heart circulation, or blood; to laryngeal disease; or to spasm of the diaphragm and other respiratory muscles.

Symptoms. A fit of asthma may be preceded by headache and sleepiness, or by various digestive or other disturbances, or it occurs suddenly without warning. Patient awakes two or three hours after midnight with sensation of suffocation or constriction about chest: dyspnœa increases, until there is a most painful struggle for breath. Various postures assumed to facilitate respiration. Chest gets distended to utmost limit: there is evidently some obstruction to entrance and exit of air. On auscultation, little true respiratory murmur audible; but sibilant rhonchi, loud wheezings, or shrill whistlings are heard. Pulse becomes small and feeble. Eyes staring. Countenance anxious. Lips purple. Temperature of surface falls; but after a time the fatigue causes the skin to be bathed in a hot sweat. After a long period, relief comes. Cough, with expectoration of little pellets of mucus. Paroxysm ceases, and sufferer falls asleep.

During interval between attacks, moderately good health enjoyed, with quiet breathing. Most asthmatics thin and round shouldered: countenance expressive of attacks of suffering; cheeks hollow; voice rather hoarse; slight cough. Interval varies in length from twenty-four hours to twelve months. Attacks sometimes periodic. Sometimes alternate with melancholia, or disappear with supervention of an attack of gout, or of eruption on skin. Asthma very capricious: kept off by certain climates, but only experiment can decide which air is suitable for each case. More common in men than women. Often hereditary. In *idiopathic* or *spasmodic* asthma, the disease is uncomplicated. In *symptomatic* or *organic* asthma, the suffering is complicated with, or symptomatic of, some disease of nervous system, of alimentary canal, of heart, of lungs, or even of skin.

TREATMENT. *During paroxysms* :—If stomach contain undigested food, a stimulating emetic, 232. If rectum be loaded, an enema of castor oil and assafœtida and rue, 189. Croton oil and turpentine enema, 191.—Great object is to relax bronchial spasm. A dose of iodide of potassium (grs. 10), with ammonia or ether, and tincture of belladonna (min. xx—xxx) often succeeds. Subcutaneous injection of atropine, 314. Opium or morphia may give relief, but often injurious: if given, only a full dose will be of any avail. A cup of strong coffee. A glass of strong brandy or whisky, or rum punch. Inhalation of chloroform, or ether, of doubtful value: patient usually gets relief while inhalation is continued, but wakes up as bad as before; nitrate of amyl sometimes useful, often painful. Iodoform, 338. Tobacco useful in some cases, especially in women: when it produces nausea and collapse, the attack often ceases. A pipe of Latakia sufficient for those unaccustomed to smoking. Stramonium cigars. Stramonium seeds smoked in a pipe. Datura Tatula cigars. Cigares Anti-Asthmatiques de M. Joy. Stramonium with henbane, 323. Conium with henbane, 335. Fumes from stramonium leaves prepared like nitre-paper. Nitre paper fumes. Turpentine stupes. Hot-water stupes. Sinapisms. Hemlock poultice.

In interval :—Improvement of general health by tonics; regular mode of life; use of cold shower or sponge bath. Removal of dyspepsia. Meals to be taken at such times that digestion may be completed before retiring to bed. Selection of a climate the opposite to that in which attacks come on.

When mucous membrane about fauces is relaxed,—Tannin or catechu lozenges. Atomised spray of astringent fluids, 262. Sponging with solution of nitrate of silver. When bronchitis present—this to be treated (see *Bronchitis*).—If digestion be weak,—Nitro-hydrochloric acid, 378. Pepsine, 420. Ammonia and bitters, 361. Quinine and rhubarb, 385. Steel and citrate of potash, 403. Quinine. Phosphorus. Arsenic. Arsenic and iodide of potassium in combination.—If cause be obscure,—Iodide of potassium with aconite, or with ammonia and belladonna, 31. Inhalation of oxygen gas. Respiration of compressed air.

Remedies sometimes employed :—Carbonate of ammonia. Ammoniacum mixture. Nitro-glycerine. Compound squill pill. Assafœtida. Nitrate of silver. Arsenic. Camphor. Galbanum. Ipecacuanha. Dilute hydrocyanic acid. Indian hemp. Senega. Strychnia. Compound tincture of benzoin. Sumbul. Oxide of zinc. Valerianate of zinc or ammonia. Sulphate of zinc. Blisters to spine or nucha. Ointment of tartarated antimony to chest walls. Galvanism.

ASTIGMATISM. From 'A, priv.; *στίγμα*, a point,—signifying that rays derived from one point do not again unite into one point.—An inequality in the refractive power of the several meridians of the eye. Usually the cornea is more convex from above downwards than from side to side, or would in section present a segment of a smaller circle. The asymmetry on which astigmatism depends is proper to all eyes. Usually it exists in so slight a degree that the acuteness of vision is not essentially impaired by it (normal astigmatism). But exceptionally it becomes considerable, and occasions an aberration of the rays of light, which interferes with the sharpness of sight (Donders).

ATELECTASIS.—From 'Ατελής, imperfect; ἔκτασις, dilatation. —A congenital non-expansion of air-cells of lungs.—See *Pulmonary Condensation.*

AUDITORY VERTIGO.—See *Menière's Disease.*

BED CASE.—A not uncommon form of hysteria. Subjects of it live in bed; they are tranquil, cheerful, have good digestions, and like the kind attentions of sympathizing friends. Often impressed with belief that there is serious disease in spine, or in womb: there are certain movements which they think cannot be made without "horrible" pain. Menstruation frequently attended with suffering; leucorrhœa. Uterine displacement, or any other abnormal condition to be remedied; moral suasion to be applied. Each example varies in regard to important mental peculiarities, and tact is needed to persuade patient to get well. —See *Hysteria.*

BERIBERI. — From *Beri*, the Singalese for weakness, by iteration implying great weakness. Synon. *Bad Sickness of Ceylon.*—A form of disease characterized by anæmia, anasarca, effusion into serous cavities, dyspnœa, sleepiness, exhaustion, syncope, &c., almost unknown to pathologists in this country, but not unlike pernicious anæmia. It is very fatal to European and native troops at Ceylon.

Symptoms. Increasing weakness. Marked anæmia. Anxiety. Numbness of the surface. Stiffness and œdema of lower extremities. Dyspnœa. Paralysis. Suppression of urine. Effusion of serum into pleuræ and pericardium. Exhaustion. Generally death in the acute form from syncope or embolism; in a milder and more chronic form recovery is frequent.

Treatment. Diaphoretics, diuretics, and aperients. Elaterium. Calomel and squills. Squills and digitalis. Treeak Farook, an electuary much esteemed in parts of India, the ingredients of which are unknown, but which acts as an aperient and mild diuretic when combined with rhubarb: the dose is from grs. 5 to 15. Oleum nigrum, regarded as a valuable preparation in India; having stimulant and diaphoretic properties in doses of ten minims. Tonics. Tincture of perchloride of iron. Effervescing draughts. Opium. Nux vomica. Spirit of nitrous ether. Nourishing diet. Wine. Attention to diet and clothing, protection from vicissitudes of temperature or malaria, and everything that tends to depression of vitality.

Cupping over spine. Blisters. Friction, with stimulating liniments. Galvanism.

BILIARY CALCULI.—From *Bilis*, bile; *Calculus* (dimin. of calx), a small stone.—See *Gall-Stones.*

BITES OF RABID ANIMALS.—The immediate *treatment* is as follows:—The tissues around seat of injury are to be compressed by a ligature or otherwise, to prevent absorption. Then the wounded part is to be excised as soon as possible; taking care to remove every portion touched by animal's teeth, and to obtain a clean raw surface. The wound should next be thoroughly washed by a stream of water, long poured over it: lunar caustic afterwards to be applied. Mr. Youatt prefers nitrate of silver freely used, to every other caustic; he recommends that after its application the wound be quickly healed. Some authorities advise that the wound be kept open by irritating ointments. Chloroform may be given to prevent pain of knife. Should undergo inoculation after the method of M. Pasteur as soon as possible. Subsequently, patient to be assured that all has been done to prevent any after-mischief. To afford him greater confidence, administer for some days the sulphite of magnesia in bark, 48.—See *Hydrophobia.*

BITES OF VENOMOUS REPTILES.—The poisonous reptiles provided with fangs are the *Ophidia* or serpents, and one true lizard, *Heloderma*, from Mexico. Venomous serpents are—(1) Colubrinæ; (2) Viperine.

Colubrine poison very active on important nerve centres, death from asphyxia often rapid; but it is a weak blood poison, hence recovery from immediate effects is usually permanent. Chief poisonous Colubrine snakes:—*Naja*, Indian and African cobra; *Bungarus*, the krait of India; *Ophiophagus*, or hamadryad; *Dendraspis* of Natal; and *Elaps lemniscatus*, the labarri of South America. *Viperine poison* causes convulsions often rapidly fatal, but acts slowly on respiratory centres. Should patient recover from immediate effects, acute blood poisoning, cellulitis venenata, and other symptoms usually step in and often kill the patient. Chief viperine snakes: *Crotalus*, rattlesnake; *Cenchris Piscivorus*, water viper or mocassin snake; *C. Contortrix*, or copper-head—all North

American; *Lachesis*, or bush-master, of Guiana; *Acanthophis* death adder of Australia; *Cerastes*, the horned adder, and *Clotho arietans*, puff adder, both African; lastly, in India, *Duboia*, chain viper, or "tic-polonga," and *Echis*, "kupur" or "phoorsa" snake.

The only poisonous reptile indigenous to this country is the *Common Viper* or *Adder*. It is found on the heaths and in the dry woods of all parts of Great Britain. Poison apparatus consists of a gland placed by side of head, a duct, and a fang or pointed curved tooth moulded in form of a tube. The bite rarely proves fatal. The wounded part becomes the seat of severe pain; great swelling, redness, and lividity. Faintness: rapidity and feebleness of pulse. Bilious vomitings. Dyspnœa. Profuse cold sweats. Jaundice. Delirium, or convulsions.

TREATMENT.—If a limb be bitten, apply ligature (piece of cord, &c.) round it two inches above bite, slip a stick under cord and twist it so as to tighten ligature to utmost. Then at once excise tissues around wound with penknife or scalpel to depth and width of about ¼ inch; let part bleed and then apply actual cautery or inject into the subcutaneous connective tissue a 5 per cent. solution of permanganate of potash, or carbolic or nitric acid. Give liquor ammoniæ, min. xv. to the ounce of water, at once, and every quarter of an hour for two hours or longer if symptoms appear; or give one ounce of equal parts of brandy, whisky, rum, or gin and hot water at the same intervals. Sinapisms to præcordia if dyspnœa, paralysis, or nausea set in. Perfect rest. Artificial respiration. Suction of wound practically useless to patient and dangerous to operator (Sir Joseph Fayrer). After recovery from shock of bite of viperine snake, look out for diffuse cellulitis and other septic symptoms.

BLENNORRHAGIA, BLENNORRHŒA.—See *Gonorrhœa.*

BLOWS AND BRUISES.—Seldom necessary to do more than relieve pain and prevent discoloration. To be accomplished by:—Arnica lotions, 275. Aconite lotions, 265. Spirit and ammonia lotions, 273. Poultices of black bryony root (*Bryonia nigra*). used by pugilists. Glycerine. Oil of turpentine. Dilute solution of subacetate of lead.

BOILS.—A boil or furunculus (from *Ferveo*, to burn) is a circumscribed hard tumour, small but very painful, produced by inflammation of the true skin and subjacent areolar tissue. Morbid process terminates in suppuration and ulceration.

TREATMENT. Pluck out central hair and inject a few drops of carbolic lotion. Paint over with collodion. Poultices. Fomentations. Painting with iodine. Resin, Eleme or Peruvian balsam ointment. Incisions (?). Jalap and senna, 150. Sulphide of calcium. Quinine, 379. Peroxide of hydrogen. Mineral acids and bark, 376. Liquor arsenicalis, 52. Yeast. Liquor potassæ. Tar, 36. Nourishing food. Wine or beer. Change of air.

BRASS-FOUNDER'S AGUE.—A peculiar form of intermittent fever, which affects brass-founders and other workmen exposed to the fumes of deflagrating zinc. Observed in the Birmingham foundries, &c.

SYMPTOMS. The paroxysms occur irregularly. Constriction or tightness about chest. In the evening, shivering; an indistinct hot stage; profuse sweating.

TREATMENT. Emetics and milk, as prophylactics. Avoidance of the fumes of zinc. Tonics, quinine, &c.

BRIGHT'S DISEASE.—A term indiscriminately applied to all renal diseases accompanied by albuminuria and dropsy.—See *Nephritis; Renal Degenerations.*

BRONCHIECTASIS.—From Βρόγχος.—Dilatation of bronchial tubes; most commonly the result of chronic bronchitis, phthisis, or chronic interstitial pneumonia, but may be due to adhesion of pleura, or fibroid condition of lungs.

SYMPTOMS. Chronic cough and shortness of breath; offensive sputa often very copious; tubular breathing, with coarse crepitation or gurgling; exaggerated vocal resonance.

Sometimes a portion of dilated tube cut off by occlusion of bronchus and retained secretion, forms an abscess which may give rise to a cavity.

TREATMENT.—See *Bronchitis.* Patient to be encouraged to cough and expectoration assisted. Inhalations of iodine, creosote, carbolic acid, eucalyptol, thymol, turpentine, or terebine.

BRONCHITIS.—From Βρόγχος, the windpipe; terminal *-itis.* Synon. *Pulmonary Catarrh.*—Inflammation of mucous membrane of bronchial tubes. May be acute or chronic, and in larger or smaller tubes: affects one or both lungs throughout, or only a portion of these organs—usually the upper lobes. Symptoms of hay-asthma often of a bronchial character.

1. **Acute Bronchitis.**—A dangerous disorder: inflammatory action often spreads to vesicular texture of lungs.

SYMPTOMS. Fever. A sense of tightness or constriction about chest. Hurried respiration, with wheezing. Cough. Expectoration of viscid glairy frothy mucus, and afterwards of purulent secretion. Frequent, and often weak, pulse. Foul tongue. Headache and lassitude. Sickness. Great anxiety.

Inflammation of *larger and medium-sized* tubes, attended by less severe symptoms and results than *general and capillary* bronchitis. Latter rare in adults; chiefly seen in very young and old. It is recognized by tendency to cause asphyxia; paroxysms of dyspnœa or orthopnœa; congestion of surface; perpetual cough; general restlessness; increasing prostration; and in fatal cases, somnolence, muttering delirium, and coma.—Sometimes, during progress of acute bronchitis, one or more tubes become choked up with viscid phlegm; *pulmonary collapse* resulting, especially in children—a portion of lung being emptied of air. One frequent result of collapse is vesicular emphysema; so that loss of function in airless part of lung is compensated for by increase of volume in non-obstructed portion.

In early stage of bronchitis, auscultation often detects two dry sounds—*rhonchus* and *sibilus*. Rhonchus belongs to larger bronchi: sibilus bespeaks more danger, as denoting that smaller air-tubes and vesicles are affected. After inflamed membrane has poured out fluid, the dry are displaced by moist sounds—*large and small crepitation*. Rhonchus and large crepitation are the dry and moist sounds of larger air-passages: sibilus and small crepitation of the smaller branches. No marked alteration in resonance of chest to be detected; with exception of increased resonance in emphysema, and dull percussion-note in collapse.

TREATMENT. Confinement to bed. Temperature of room 65° to 70° F. Air to be moistened by steam. Beef-tea, milk, arrow-root, or gruel; tea with milk, soda-water and milk. Mucilaginous drinks, 19. Sarsparilla, squills, and barley water, 238. White wine whey, 10.

If there be constipation, castor oil; or sulphate of magnesia and senna, 139. Saline draughts, 348. Salines with ipecac. and hyoscyamus and morphia, at first *coup sur coup*. Ammonia and senega, 235. Carbonate of ammonia, 361. Citrate of potash, ammonia, and aconite, 211. Dry cupping, turpentine stupes, sinapisms or poultices to walls of chest. Inhalation of steam.

In bronchitis connected with mitral regurgitation, digitalis is of great value; and where there is gouty diathesis, alkalies and colchicum.

In capillary bronchitis sedatives should be given with the utmost caution, and a stimulating treatment be adopted—carbonate of ammonia, lobelia and senega, 235; also alcoholic stimulants.

Remedies sometimes advised:—Bleeding. Blisters. Friction with croton oil, or tartarated antimony ointment. Emetics. These last sometimes most useful when asphyxia threatened by accumulation of mucus in the tubes. Tartarated antimony. Calomel. Colchicum.

2. Chronic Bronchitis.—Very common in advanced life.

SYMPTOMS. Two chief forms: (1) without expectoration, often gouty, tending to emphysema; (2) with copious expectoration, more likely to lead to bronchiectasis. Latter, indicated by habitual cough, shortness of breath, copious expectoration: aggravated by exposure to cold and damp, bad living. Cases of "winter-cough" in old people, mostly examples of bronchial inflammation of a low lingering form.—Impaired resonance on percussion, especially low down posteriorly: on auscultation feeble vesicular murmur, mingled with rhonchus and sibilus and moist crepitation.—Dilatation of bronchi, with condensation of surrounding lung tissue, occasionally results: sometimes bronchorrhœa—excessive and fœtid muco-purulent secretion.—Seldom directly fatal: may be indirect cause of death by leading to other diseases.

TREATMENT. General indications. When the sputa are viscid, alkaline carbonates should be given; and apomorphine hydrochlorate, gr. $\frac{1}{15}$, increases secretion. When the secretion is excessive, chloride of ammonium with iron or astringent preparations. If there is a tendency for secretion to accumulate, narcotics must be avoided, otherwise morphia diminishes secretion by lessening irritability; or atropia may be combined with morphia. Carbonate of ammonia, 361. Citrate of ammonia, 362. Ammonia and senega, 235. Chloride of ammonium, 60. Ammoniac mixture and opium, 237. Squills with ammonia and morphia, 239, or with nitric acid and bark, 236, or with tincture of iron, 236, or squills and conium, 243, squills and sarsaparilla, 238, squills and turpentine, 50. Ipecacuan and Indian sarsaparilla, 241. Nitrous ether, ipecacuan, and conium, 244. Stramonium and dulcamara, 245. Sarsaparilla and squills, 238. Compound squill pill. Benzoate of ammonia. Tolu. Guaiacum. Cod liver oil. Wine. Nourishing food. Milk. Digitalis. Quinine. Iron. Mineral acids and bitter infusions often very valuable during convalescence.

Locally:—Inhalation of simple vapour. Turpentine or creosote inhalations, 260. Inhalation of ipecac. wine or other atomized fluids, 262. Counter-irritation to thoracic walls by sinapisms; turpentine stupes; iodine, stimulating liniments, 277, 278. Warm pitch, galbanum, or chalybeate plasters. Respirator to be worn. Patient must avoid exposure, wear warm clothing with flannel next the skin, and if possible seek a suitable climate, dry cough needing a moist relaxing atmosphere, while if expectoration is excessive a dry warm air is required.

Remedies sometimes recommended:—Emetics of antimonial wine, or sulphate of zinc. Tartarated antimony. Compound tincture of benzoin. Copaiba. Cubebs. Creosote. Guaiacum. Digitalis. Chlorate of potash. Storax. Sulphur and acid tartrate of potash. Sumbul.

3. **Bronchorrhœa.**—A peculiar and dangerous form of chronic bronchitis, occurring in old people, especially in cases of valvular disease of the heart; *catarrhus senilis*; or *subacute bronchitis*.—Consists of a subacute attack of general or capillary inflammation of tubes. Symptoms insidious; catarrh; more or less dyspnœa; excessive secretion of opaque frothy mucus. Febrile condition often much relieved by remedies which produce copious expectoration. Sometimes causes fatal prostration: or patient dies from suffocation, unable to expel accumulated mucus: or deficient oxygenation of blood leads to coma.

TREATMENT. Ammonia and senega with ether. Stimulant emetics if asphyxia threatened. Stimulants and nourishing fluids from the first. If heart diseased, digitalis and strychnine, gr. $\frac{1}{30}$.

4. Plastic or Croupous Bronchitis.—Rare form of bronchial disease. Characterized by formation (Πλάσσω, to form or figure, to make an image, &c.) of solid or tubular concretions of exudation-matter within bronchi.

SYMPTOMS. Expectoration of casts of tubes. Small fragments expelled easily. Expulsion of moulds of notable size preceded by dyspnœa; dry cough; hæmoptysis. Sometimes, excessive hæmoptysis; fibrinous concretions detached, but not easily expelled from tubes. Occasionally casts consisting of decolorized coagulated blood due to aneurismal or some other form of hæmorrhage. Cases of plastic bronchitis may last for years, with occasionally acute seizures.

TREATMENT. Remedies very ineffectual. Carbonate of ammonia, 361, 371. Iodide of potassium with ammonia. At time of hæmorrhage, gallic acid, 103; turpentine, 102; iron-alum, 116; tannin and nitric acid, 99. Nourishing food. Sea air. Inhalations, sinapisms or a blister to chest. Cod liver oil.

5. Mechanical Bronchitis.—Due to inhalation of different particles which irritate bronchi. For example, grinder's rot, or knife-grinder's disease; carbonaceous bronchitis, or black phthisis, occurring in miners, from inhalation of lamp-smoke and coal-dust in pits; and cotton pneumonia, or cotton phthisis, met with amongst operatives in cotton mills. To be prevented by proper respirators.—Larch or Venice turpentine (Terebinthina laricea), in doses of gr. 15–20 made into pills with liquorice powder, and taken thrice daily, often serviceable.

6. Secondary Bronchitis.— Bronchitis occurring secondarily in blood-diseases, often troublesome. *Typhoid* bronchitis, may greatly aggravate danger in enteric fever.—*Gouty*, or *rheumatic* bronchitis, will require colchicum and iodide of potassium.—*Syphilitic* bronchitis, occurs in system poisoned to secondary or tertiary degree. Causes excessive muco-purulent expectoration; night sweats; wasting; great debility. May be cured by iodide of potassium, 31. Compound pill of calomel. Mercurial vapour bath, 131. Iodine inhalations, 259. Atomized iodine, or corrosive sublimate, spray, 262.

7. Hay Asthma.—Synon. *Hay Fever; Summer Catarrh.*—May be described as a severe catarrh, with asthmatic symptoms superadded, due to inhalation of pollen of grasses.

SYMPTOMS. Conjunctival, nasal, faucial, and bronchial mucous membranes are each affected. Headache. Suffusion of eyes. Sneezing. Irritation of nose and fauces. Dry harassing cough. Paroxysmal attacks of asthma.

TREATMENT. May be cut short by removal from cause; residence at sea-side especially. Susceptibility sometimes destroyed by quinine and steel; arsenic; nux vomica. A few drops of guttæ cocainæ hydrochloratis (20 per cent.) to be put into each nostril with a camel's-hair pencil several times a day.

During attack:—Nasal douche or inhalation of atomized solution of quinine (262) or of carbolic acid (262). Tincture of lobelia, 88. Ammonia and assafœtida, 86. Valerian and assafœtida, 94. Ether and opium with camphor, 85. Belladonna and zinc, 410. Stramonium. Indian hemp. Coffee. Subcutaneous injections of atropine, 314. Creosote inhalations, 261. Pipe of tobacco.

BRONCHOCELE.—From Βρόγχος, the windpipe; κήλη, a swelling. Synon. *Thyrocele; Wen; Goitre* by the Swiss; and in this country *Derbyshire Neck*, from its prevalence in some parts of Derbyshire.—An enlargement of the thyroid gland.

SYMPTOMS. The whole gland may be swollen, or only the centre, or either side—especially the right. Sometimes no inconvenience beyond the deformity. In other cases, throbbing of vessels, palpitation of heart, mental depression, dyspepsia, and other manifestations of attenuated blood, or difficult respiration and deglutition from pressure of tumour, or irregularity of uterine functions; scanty menstruation; profuse leucorrhœa.

A *cystic* form, in which cysts are developed in the gland. Their lining membrane very vascular; brown-coloured serous contents. Cystic bronchocele more uncommon than simple hypertrophy of thyroid gland.

Exophthalmic goitre. Synon. *Graves's disease,* which see; *Basedow's disease.* Protrusion of eyeball (proptosis oculi); strong pulsation in thyroid body; palpitation of heart with a bruit.

TREATMENT. Removal from locality in which it is endemic. Regular establishment of menstrual functions. In cystic goitre empty the cyst with trocar and cannula, and inject a solution of tincture of iron ʒij to water ℥j. The cannula should be kept in (plugged) till the third or fourth day, then replaced by india-rubber drainage tube, cut shorter as the cyst becomes smaller, and poultices applied till the goitre has disappeared. Iodide of ammonium, 38. Iodide of potassium, 31. Cod liver oil. Iodide of iron, 32. Quinine and iron, 380. Bromide of iron. Steel and aloes, 393. Digitalis. Liquor potassæ. Bromide of potassium. Strychnine. Bromide of ammonium. Nourishing food. Cold bathing. Sea air.

Locally:—Ointment of red iodide of mercury, 302. Compound iodine ointment with cod liver oil, 308. Diluted iodine liniment. Ointment of iodide of ammonium. Ointment of iodide of potassium. Ice. Setons. Ligature of thyroid arteries. Electro-puncture. Injection with solution of perchloride of iron, or with tincture of iodine, or with solution of iodide of potassium, not free from danger. Introduction of drainage tube into cyst, after withdrawal of contents by tapping and injection of iodine. Free incision into cyst and plugging with oiled lint; so as to cause alteration or destruction of lining membrane and subsequent granulation. Excision of the cyst a dangerous proceeding. Extirpation of the gland, unjustifiable.—See *Graves's disease.*

BUBO.—From Βουβὼν, a tumour of the inguinal glands.—Consists either of a simple or of a specific inflammatory enlargement of a lymphatic vessel, or of one of the glands in connection with such vessel. Term "bubo" especially applied to inflammation of the inguinal glands.

There are several varieties :—

(1) Simple Sympathetic Bubo.—Whatever causes lymphatic irritation may give rise to simple inflammatory adenitis. Hence it may arise from gonorrhœa, &c. Inflammation may end in resolution, or go on to suppuration.—Requires rest. Iodine paint. Warm bathing. If indolent, pressure with a pad of lint and spica bandage. Tonics. Cod liver oil. If suppuration occurs, rest, poultices, free vertical incision through every pointing area. Then plug with lint. After a few days syringe sinuses night and morning with weak iodine lotion.—See *Adenitis.*

(2) Primary Bubo.—*Bubon d'emblée.* Said to form from the direct absorption of venereal matter, without previous sore. Very rare.

(3) Amygdaloid Indolent Bubo.—Comes on about eleven days after local induration in cases of true syphilitic infection. Suppuration only occurs from some accidental complication. Treat for constitutional syphilis.

(4) Virulent or Inoculable Bubo.—Due to lymphatic absorption of virus from a soft chancre. Affected gland suppurates: walls of resulting abscess form a chancrous sore, the pus from which is inoculable. Treat as for suppurating simple bubo till abscess opens, then dress it as a chancre, which see. Quinine and iron. Nourishing food.

BULIMIC DYSPEPSIA.—βοῦ, abbreviation of βοῦς, as an augmentative particle; λιμὸς, hunger,—βούλιμος, excessive hunger; Δὺς, difficulty; πέπτω, to digest.—In some cases of nervous gastric disturbance the appetite is exaggerated; also in diabetes and catarrhal gastritis. Often arises from irritation of fermenting substances retained in the stomach; is scarcely appeased by food. Digestion may take place easily and naturally; or is accompanied with acid eructations and pyrosis. Stomach often dilated.

Symptoms. Desire for food returns immediately after a meal. Constant hunger. Faintness and mental depression. Painful sense of sinking about præcordia.

Treatment. Cod liver oil, 389. Raw minced meat, 2. Pepsine, 420. Alkaline carbonates.

BURNS AND SCALDS.—Synon. *Ambustio* (*Amburo*, to burn around).—The danger varies according to the extent of surface injured, the degree of tissue disorganization, the importance of the organ implicated, and the age and constitution of patient. Slight burn of large area more dangerous than deep burn of small extent.

SYMPTOMS. Shock to system, sometimes so severe as to produce fatal syncope. Pallor and coldness of surface and extremities; shiverings. Rapidity and feebleness of pulse. Imperfect reaction and exhaustion; or violent reaction with fever, and congestion or inflammation of lungs or brain or bowels; or hectic fever from tedious cicatrization, exhausting discharges, &c. In few cases can the danger be said to be over until after the lapse of nine days. Where recovery ensues, there is the fear of deformity from contraction of cicatrices.

TREATMENT. To bring about reaction and relieve pain, administer a full dose of opium, with mulled port wine or brandy and water: repeat the dose if necessary. Chloroform inhalation, where pain is excessive: the injured part to be dressed while patient is insensible. After reaction is well established, a dose of castor oil or a purgative enema if there be constipation. Simple salines, where internal organs are congested or inflamed. Ice. Ammonia and bark, port wine or brandy, milk and raw eggs, beef tea with pounded meat, cod liver oil, and other nourishing food, where there is depression. In all cases, perseverance with opium or other anodynes or chloroform to remove pain and nervous irritability.

Locally:—Chief object to prevent access of air to injured surface. Immersion in cold water for many hours where only a portion of a limb is burnt. Free application of lime liniment (Carron oil) with the addition of carbolic acid 1 in 60 or ol. eucalyptus ʒj to ℥j, on cotton wool. Cotton wool alone impregnated with salicylic or boric acid, with gentle bandaging. Lint soaked in carbolic acid, diluted with olive oil, one part to six. Dusting with flour, rice flour, prepared chalk, or equal parts of starch and carbonate of lead. Crusts formed by the applications not to be removed until loosened by discharges. Dressing with sulphur ointment, subacetate of lead ointment, carbonate of zinc in ointment or powder, zinc ointment, creosote, glycerine, sulphate of zinc lotion, solution of gum, collodion, &c. Dressing to be covered with sheets of gutta percha, or oiled silk, or tinfoil to exclude the air.

Patient to be kept in an easy position, between blankets, and on a water bed if necessary. All vesicles to be pricked, so that tension may be relieved by escape of contents; but the raised cuticle not to be displaced. When granulations form, skin grafting to promote healing and prevent contractions. The prevention of deformity to be attempted by attention to position, by movements of joints where practicable, and by lubricating cicatrix freely with oil.

CÆCITIS.—From *Cæcus*, blind; terminal *-itis*. Synon. *Typhlitis: Typhlo-enteritis.*—Inflammation of the cæcum or its appendix.—May be due to accumulation of hard fæcal matter, skins or stones of fruit, biliary and intestinal concretions, balls of lumbrici, and oxyurides, &c.

Symptoms. In *acute* form:—Fever; nausea; constipation: often sets in with vomiting and diarrhœa, constipation supervening. Fulness and tenderness about right iliac region; pain, rendered exquisite by pressure. Position on right side selected, with trunk somewhat bent and knees drawn up, to relax painful tissues. If peritoneal coat get involved, may have evidence of general peritonitis. Areolar tissue round cæcum may also become inflamed (perityphlitis) leading to suppuration and abscess.

When inflammatory action begins in *vermiform appendix* from constitutional causes, or escape into this part of morbid matter, symptoms are very acute. Excruciating tormina; tympanites; hiccup; violent sickness. Obstruction of bowels. Great pain, extending to right ovary or testicle and shooting down inside of thigh. Gangrene and general peritonitis may follow and cause death. Or a portion of large intestine and cæcum with appendix may slough off, be passed with stool, and yet recovery ultimately ensue. In tuberculous typhlitis, ulceration occurs more frequently in appendix than in cæcum itself.

In *chronic* cæcitis:—Symptoms come on slowly and insidiously Failing health; weakness; loss of flesh. Colicky pains in right iliac region. Flatulence; loss of appetite. Diarrhœa alternating with constipation. If mucous coat ulcerates,—mucous discharges; attacks of hæmorrhage. When fatal, exhaustion generally the cause. Perforation rare.

Treatment. *If acute:*—Do not give purgatives, fatal perforation may be brought about. Opium. Opium and belladonna, 344. Olive oil enemata, 188. Mucilaginous drinks, 19. Chlorate of potash drink, 360. Lemonade. Ice: iced water. Prolonged hot hip baths. Fomentations. Linseed poultices. Most perfect quiet in bed. Milk diet. Question of operation always to be considered, especially in a recurrent attack.—*If symptoms of suppuration set in:*—Ammonia and bark, 371. Quinine and ammonia, 386. Brandy and egg mixture, with opium, 318. Milk or cream. Raw eggs. Essence of beef. Port wine.

Chronic form:—Mineral acids with quinine, 379. Iodide of ammonium and bark, 38. Cod liver oil. Warm bathing. Application of belladonna, 265. Wet compress with belladonna, 297. Simple nourishing food. Sea air.

CANCER.—Synon. *Carcinoma* (Καρκινος, a crab).—By these terms the modern pathologist signifies a class of tumours consisting of cells of the epithelial type enclosed in the interstices of an alveolar stroma. The cells are of the type of the normal epithelium whence they spring; the stroma is made up of connective tissue, the fibres never communicating with individual cells. This stroma is subject to small-celled infiltration; its spaces communicate with the lymphatics. The blood-vessels tend to become obliterated from the condensation of the stroma which occurs in the chronic forms, or to rupture through want of support in soft, rapidly growing cancers. The tumour infects the nearest lymphatic glands and then becomes disseminated. When the cancer breaks down and when dissemination occurs the constitution becomes affected.

Two main divisions of cancer:—

I. Gland Cancers (acinous or spheroidal-celled).—The cells are of the type of the gland-cells whence all cancers of this class spring. The varieties are:—

(1.) *Hard spheroidal-celled cancers.*—These include the "scirrhus tumours" of the breast, œsophagus, and pylorus. They are very hard, their course is chronic, and they are very malignant, though not always quick in recurrence.

(2.) *Soft spheroidal-celled cancers*, the "medullary," "encephaloid," "soft," or "acute" cancers. These attack the liver, testicle, ovary, kidney, bladder, breast, &c. They are soft, rapid in their growth, and intensely malignant. They tend to break down and bleed, forming a "fungus hæmatodes."

(3.) *Colloid, gelatiniform, alveolar or gum cancer.*—Here colloid degeneration occurs in the cells of one of the above forms. Masses of substance, usually resembling a pale brown jelly, form in the tumour.

They occur in the omentum, stomach, intestine, and ovary. They are highly malignant, and the escape of their colloid contents into the peritoneal cavity usually causes acute peritonitis.

II. Epithelial Cancers.—The cells are of the type of the epithelium of the skin and mucous membranes whence they arise. The varieties are—

(1.) *Squamous-celled epithelioma*, the "epithelial cancers" of older writers. It appears on the lip, tongue, scrotum, anus, cervix uteri, and as a form of degeneration of warts, ulcers, and scars. It is less actively malignant than gland cancer.

(2.) *Columnar-celled epitheliomata, cylindrical carcinomata, or adenoid cancers*, where the cells are like columnar or cylindrical epithelium. They arise from mucous surfaces where the epithelium naturally exists, such as the endometrium of the uterus and the rectum. They are often papillary in form, and are more malignant than the squamous-celled variety.

SYMPTOMS.—A separable tumour, or an infiltration; which alters the original texture of organ in which it is seated, invades surrounding parts, extends to lymphatics, and involves system generally. Softening and disintegration of the growth. Ulceration of skin or mucous membrane. A foul, excavated spreading cer. Sanious, fœtid discharges. Hæmorrhages. Progressive ebility and emaciation. Pains in bones and muscles. Nausea nd vomiting. Diarrhœa. Complete prostration. Exhaustion. eath.

The cancerous cachexia: Dirty yellow hue of skin. Contracted atures. General wasting. Loss of strength and energy. Mental rritability.

TREATMENT. *General indications:*—Maintain the constitu- onal powers by tonies, nourishing vegetable rather than animal ood, pure air, warm clothing, removal of offensive discharges, nd mental occupation as long as possible.

Relief of pain:—Extract of opium, 343, 345. Opium with bella- onna, 344. Liquid extract of opium. Morphia, 315, 329, 343. onium, 336. Henbane. Codeia. Indian hemp, 317, 337. Ether. hloroform. Extract of hop. Subcutaneous injections of mor- hia, 314. Aconite. Atropine, 326. Iodoform, 338. Opiate ene mata, 339. Opiate suppositories, 340. Cancer in the pelvis, morphia suppositories, each ½ grain.

Improvement of the Blood: Arsenic. Bark and ammonia, 371. Bark and mineral acids, 376. Iodide of iron, 382, 390. Reduced iron, 394. Ammonio-citrate of iron, 401, 403. Phosphate of iron, 405. Quinine and iron, 380. Lemon-juice and chiretta, 377. Salicin, 388. Sarsaparilla. Sulphite of magnesia, 48. Chlorate of potash, 61. Cod liver oil, 389. Pepsine, 420.

Milk and cream. Raw eggs. Brandy. Wine. Beer. Vichy or soda water. Wenham lake ice.

Local remedies:—Belladonna, 265, 293. Opium and belladonna, 297. Extract of poppies. Extract of conium. Iodoform. Charcoal poultice. Linseed poultice, with or without belladonna or opium incorporated. Carrot poultice. Logwood, 82. Chlorate of potash lotion. Iodide of potassium lotion. Citric acid lotion, 264. Permanganate of potash.

Operative treatment:—Free excision, including neighbouring glands if possible (as axillary glands in scirrhus of breast). Supra-vaginal amputation of cervix uteri, if seen and diagnosed early enough. Chloride of zinc may be applied if not safely removable, or bromine one part in ten of alcohol sparingly and protecting surrounding parts. Electrolysis questionable. Actual cautery.

CANCRUM ORIS.—Sloughing phagedæna of the mouth. Occurs in young children.—See *Stomatitis.*

CARBUNCLE.—Dimin. of *Carbo*, "a live coal." Synon. *Anthrax* (from Ἄνθραξ, a coal).—Consists of severe inflammation of a circumscribed portion of skin and subjacent tissue, with infiltration of inflammatory matter and subsequent sloughing. May be due to bacillus anthracis.

SYMPTOMS. Flattened circular swelling. Throbbing or dull aching pain. Suppuration. Bloody purulent discharge. Slough of connective tissue. Always more or less septic disturbance. Often fatal in old or weakly subjects, especially if coexistent with albuminuria or diabetes.

TREATMENT. Lint compress or spongio-piline steeped in carbolic lotion. Poultices bad, they promote active decomposition. Anodyne fomentations. Opium plaster. Crucial incisions in strong subjects who can bear hæmorrhage. Injection of carbolic acid, which is fatal to the bacillus anthracis. Scraping of sloughs and ulcerating granulations with Volkmann's spoon.

Podophyllin, 160. Jalap and senna, 151. Colocynth and blue pill, 172. Saline aperients with colchicum, 562. Castor oil. Chlorate of potash and steel, 402. Arsenic, 52. Tar capsules, 36. Mineral acids and bark, 376. Ammonia and bark, 371. Quinine, 379. Peroxide of hydrogen. Opium. Morphia and Indian hemp, 317. Nourishing food. Milk. Alcoholic stimulants.

CARDIAC ANEURISM.—From, Καρδία, the heart; 'Ανευρύνω, to dilate.—Depends on a laceration of endocardium and muscular tissue, through which the blood passes and makes a pouch. In this pouch fibrin is deposited, while at its entrance is a fringed margin of endocardium with vegetation attached. May result from fatty degeneration or some inflammatory condition of muscular fibre, or of endocardium. Walls of sac consist of endocardial and pericardial membranes unbroken, while the muscular fibre seems to be replaced by a fibroid tissue.—Either kind of aneurism gives rise to obscure and uncertain symptoms. Passage of blood into sac may cause a murmur. Death usually occurs suddenly from rupture, or from sudden or gradual failure of heart; rupture sometimes prevented by adhesion of pericardium.

Aneurismal dilatation and rupture of *coronary arteries* not a frequent event. No symptoms during life to allow of correct diagnosis.

CARDIAC ATROPHY.—From Καρδία, the heart; 'A, priv.; *τρέθω*, to nourish.—Two forms:—(1) That in which the heart wastes and dwindles in all its parts. (2) The texture of the muscular walls suffers a more or less complete conversion into fat.

1. Simple Atrophy.—Occurs in connection with many exhausting diseases,—cancer, tuberculosis, diabetes, marasmus of old age, &c. The whole heart diminishes in size: after death weight found reduced from 9 to 5 oz. Minute examination detects the muscular fibres pale and soft, but otherwise healthy. The treatment must be that demanded by the constitutional state, of which the atrophy is merely a symptom.

2. Fatty Degeneration of Heart.—Muscular fibres changed into granular fatty matter. Occurs alone, or in conjunction with fatty disease of liver, kidneys, cornea. May be general when the nutrition of the heart tissues is interfered with by chronic cachectic diseases, loss of blood, phosphorous poisoning, &c., or partial when one coronary artery is obstructed. Valvular disease may or may not co-exist: when it does, aortic more generally affected than mitral valves.

SYMPTOMS. Feeble action of heart: slow pulse (not constant), sometimes as low as fifty or forty-five. General debility. Transient attacks of giddiness or faintness. Nervous exhaustion, and loss of tone. Attacks of dyspnœa. Cheyne-Stokes' respiration. Breathlessness on exertion. Angina pectoris. Sometimes pulmonary apoplexy, dropsy, &c. Heart's sounds weak, first, short and sharp; impulse feeble or absent. Perhaps an arcus senilis.—Occurs more frequently in men than women. Most common at advanced period of life. May cause sudden death,—perhaps from rupture.

TREATMENT. Nourishing animal food. Milk. Cream. Cod liver oil. Aperients. Mineral acids. Strychnine. Mild preparations of steel. Attention to digestive organs. Residence in pure air. Early hours. Gentle exercise. Avoidance of excitement or hurry. Tepid salt water sponge baths.

3. Fatty Growth.—Fat normally deposited upon the heart increased on and amongst the muscular fibres to a morbid extent May occur alone; or in conjunction with general obesity; or in association with fatty degeneration.

SYMPTOMS. When existing alone the chief features are those of a heart enlarged and impeded in the performance of its functions. Pulse permanently quickened above normal standard, while its force is diminished.

TREATMENT. Animal food. Light French, German, or Hungarian wines. Avoidance of sugar, potatoes, oily, and starchy substances.—See *Obesity*.

CARDIAC CANCER.—Primary cancer of heart extremely rare. This organ is secondarily involved more frequently. Right auricle most frequent seat: sometimes perforated by the malignant growth. Disease occasionally extends along coats of large veins. It may occur as an infiltration in muscular tissue, or as a deposit in form of tumour.

Cancer of pericardium almost invariably the result of secondary and general deposits. Sarcoma more common than scirrhus.

CARDIAC DILATATION.—Very common, nearly all forms of valvular and structural disease tending to produce dilatation, and unless this compensated by hypertrophy all the symptoms of failure of heart supervene. May occur under three forms:—(1) Hypertrophy of heart with dilatation: known as eccentric hypertrophy, when the hypertrophy predominates over the expansion. (2) *Simple dilatation*, where thickness of walls is normal. (3) *Passive* or *attenuated dilatation*, the walls being thinned. Often combined with mal-nutrition of heart, and fatty degeneration of muscular fibres. May arise from fever, anæmia, or other exhausting disease; from renal disease or from bronchitis, emphysema, endocarditis, or valvular disease. Aortic or mitral regurgitation tends to cause dilatation, while obstruction either at the orifices of the heart or in the circulation tends to hypertrophy. Pericardial adhesion, which causes the heart to work under physical disadvantages, also tends to hypertrophy, see *Cardiac Hypertrophy*. The chief symptoms are, a short weak pulse; coldness of extremities; giddiness, and deranged digestion. Attacks of fainting, and paroxysms of asthma; restless nights; palpitation; perhaps, anasarca followed by ascites. Physical signs: weak diffused impulse, more like a tap than a push; first sound loud, short, and sharp, second usually weak.

TREATMENT. Careful diet. Excitement and exertion to be avoided. Aperients. Antispasmodics, ferruginous tonics, and agents to aid digestion. Digitalis often most useful.

CARDIAC EMBOLISM.—The arrival in the heart of a fibrinous clot—formed in a systemic vein from phlebitis or thrombosis with or without antecedent injury or operation; or in the pulmonary veins during pneumonia, injury. Usually at once fatal.

CARDIAC FUNCTIONAL DERANGEMENT.—May closely simulate organic disease of heart. Occurs in cases of hysteria, ovarian or uterine irritation, neuralgia, anæmia; not uncommon in women at "change of life." May be due to nervous exhaustion from over-study, anxiety, sexual excesses, &c.; to gout, rheumatism, or chronic kidney or liver disease; to use of tobacco or strong tea; to dyspepsia.

SYMPTOMS. There may be irregular pulse, palpitation, fluttering, with a cardiac murmur and subcutaneous œdema in anæmic subjects. Dull wearying ache in præcordial region: occasionally, lancinating pains. Inability to lie on left side, owing to tenderness. Mental depression. Dyspepsia: flatulence and acid eructations. Globus hystericus. Occasional attacks of giddiness, faintness, headache, noises in ears, flushings of face, violent pulsations in aorta, &c.

A special form of functional derangement of heart is extremely rapid action, 160–200 beats per minute, which may continue for many hours and even for several days. The palpitation usually ceases suddenly, and the paroxysms may come on at long or short intervals. It affects mostly overtaxed women.

TREATMENT. Allay symptoms while removing their source. Explain cause of suffering to patient. Antispasmodics and sedatives to quiet circulation,—Ether and ammonia, &c., 85. Assafœtida and ammonia, 86. Sumbul and ether, 95. Henbane, camphor, and hop, 325. Codeia and assafœtida, 328.—Where there is any connection with rheumatism,—Aconite and guaiacum, 330. Potash and ammonia, 67.—In gouty subjects,—Potash and aloes, 71. Citrate of lithia, 64. Stramonium, colchicum, and digitalis, 94. Colchicum, 46, 351, 352. Saline draughts, 348.—If there be constipation with unhealthy secretions,—Aloes and jalap, 145. Rhubarb and gentian, 146. Phosphate of soda and aloes, 149. Pepsine and aloes, 155.—If there be dyspepsia.—Carbonate of magnesia, 62. Ammonia and chiretta, 63. Potash and ammonia, 67. Soda, morphia, and hydrocyanic acid, 70. Ammonia in effervescence, 362. Bismuth, 65. Nitro-hydrochloric acid, 378. Pepsine, 420.—If there be nervous exhaustion or anæmia,—Citrate of steel and ammonia, 401, 403. Reduced iron and pepsine, 394. Phosphate of iron, 405. Steel and aloes, 404. Quinine and iron, 380. Iron and digitalis. Ammonia and belladonna or digitalis. Belladonna plaister over heart.

In all forms,—Attention to diet. Tobacco and tea to be forbidden. Malt liquors usually disagree. Brandy and soda water. Light French, German, or Hungarian wines. Exercise in pure air. Sea bathing.

CARDIAC HYPERTROPHY.—From Καρδία, the heart; Ὑπὲρ, in excess; τρέφω, to nourish. Synon. *Hypertrophia Cordis.*—The heart is roughly said to be about the same size as the closed fist. Its average weight in adult male is 9½ oz.; in female, 8½. After sixtieth year, the weight is somewhat greater, owing to the thickness of walls of left ventricle having increased.

The muscular walls of one or more cavities may become thickened without any diminution in size of chamber,—*simple hypertrophy.* Or, the walls may be thickened and the chamber enlarged,—*eccentric hypertrophy,* or *hypertrophy with dilatation.* Or, the increase in thickness may be accompanied with diminution of size of cavity, this doubtful—*concentric hypertrophy.*—Hypertrophy is often beneficial: it counterbalances some impediment to flow of blood through heart, or to free play of this organ.—Hypertrophy of left ventricle is usually due to aortic valvular disease; or to chronic Bright's disease, in which there is resistance to the passage of the blood through the capillaries and arterioles; sometimes caused by adherent pericardium. Hypertrophy with dilatation of right ventricle, generally due to disease in the mitral valve causing obstruction to the pulmonary circulation, or to some chronic disease of lungs.

Symptoms. Will depend on extent of hypertrophy and on degree of compensation of valvular or other lesions. Symptoms attributed to hypertrophy often due to valvular lesion. Frequently there are palpitations; dyspnœa; difficulty in walking quickly; uneasiness and pain about cardiac region; headache; repeated attacks of vertigo. First sound heard less distinctly than in health. Extent of pulsation and degree of impulse increased. When left ventricle hypertrophied, apex displaced downward to sixth space; when right, to left beyond nipple-line. Murmurs in valvular disease.

Treatment. Hypertrophy is conservative. Morbid conditions accompanying the hypertrophy to be treated. Excitement to be avoided. Alcohol to be only allowed sparingly. Diet to be such as is easily digested and nutritious, animal food required. Saline and aloetic aperients. Diuretics if any tendency to dropsy

Hepatic and renal functions to be attended to. If there is excess of cardiac action,—strophanthus, digitalis, conium, and belladonna. If there is dilatation and debility,—digitalis, strychnine, and iron.—When dyspnœa is urgent,—ammonia and ether, 314, 322, 342.

CARDIAC RUPTURE.—Rupture of the heart may occur spontaneously from previous disease, or may be caused by external violence. In former case, more frequent on left than right side; in latter, the reverse. Laceration of walls of ventricle most common, and the apex the part at which it occurs. Rupture of valves or their tendons, generally consequence of prior attack of endocarditis: laceration of muscular wall frequently due to fatty degeneration, sometimes to ulceration, or to rupture of aneurism in ventricular wall.

When death does not result immediately, there is great orthopnœa; intense prostration; syncope; sometimes convulsions. In laceration of valves, of chordæ tendineæ, or of musculi papillares,—great oppression about præcordia, with a loud endocardial bruit. If wound gets plugged with coagula, patient may live for even some days.

CARDIAC SYPHILIS.—Gummatous tumours in substance of heart walls destroying muscular fibres. Symptoms—those of weakness of heart; rarely diagnosed. May prove suddenly fatal by syncope. Treatment—iodide of potassium, &c.

CARDIAC THROMBOSIS.—Formation of fibrinous coagula in one or more of the chambers of the heart. Liable to occur in conditions of blood in which there is excess of fibrin, as in the puerperal state, and in exhausting febrile diseases, when the heart has become weak and the circulation languid. Thrombi may form as a result of valvular disease, especially in the left auricle in mitral stenosis.

Small coagula may be dislodged and give rise to embolism in the pulmonary or systemic circulation. A large clot interferes with the action of the heart, produces distress and dyspnœa and death: the sounds of the heart are confused. Sometimes death is very sudden.

TREATMENT.—Support and stimulants. Ammonia and iodide of potassium. Ether. Ammonia may be injected into the veins.

CARDIAC VALVULAR DISEASE.—Most of the alterations in internal lining membrane of heart result from inflammation, either acute as in rheumatic fever, or chronic as in gout, or from overstrain, &c., which gives rise to a deposit of lymph upon or beneath the serous membrane. The valves lose their delicacy and transparency; become thick, puckered, and adherent to each other, and the tendinous cords contracted. In some cases the valves get covered with warty vegetations or excrescences; or they may be ulcerated; or they may become the seat of atheromatous or other deposits; or they may be ossified.

Effects twofold:—Either to contract and narrow the orifice and so obstruct the passage of the blood—*valvular stenosis* or *obstruction;* or by thickening and shortening the valves, to prevent them from closing the orifice and hence permit of regurgitation of blood—*valvular insufficiency, regurgitant disease of valves*, &c. There may be only valvular obstruction, or valvular insufficiency; often, these conditions co-exist.

SYMPTOMS. Shortness of breath on exertion; in advanced stages, dyspnœa which may amount to most severe orthopnœa. Palpitation and irregular action of heart, with sounds and murmurs discoverable by auscultation. Alterations in pulse. Congestion of lungs; bronchitis; pneumonia; pulmonary hæmorrhage. Hæmorrhages from nose, bronchi, or stomach. Œdema of lower extremities, sometimes of arms and face; ascites; hydrothorax. Dropsy more common in affections of right than of left cavities. Headache, noises in ears, vertigo, syncope, cerebral congestion, and cerebral hæmorrhage; most urgent in aortic disease. Broken rest, startings during sleep, frightful dreams. Enlargement of liver and spleen. Disordered digestion. A peculiar appearance of countenance—face puffed; cheeks flushed and of purple hue; lips congested; eyes bright and watery.

As disease becomes aggravated, patient gets weak and very nervous. Suffers immediately from over-exertion, mental emotion, improper food, exposure to cold and wet. Subsequently, death, either suddenly from syncope, or gradually from progress of secondary affections.

Physical signs:—Either or both sounds of heart accompanied or supplanted by a bellows murmur (bruit de soufflet). A murmur may be harsh, or rough, or cooing, or whistling, or musical—modifications of but slight importance. Of whatever character, a murmur is caused either by alterations of the valves or orifices or great vessels producing an *organic* murmur; or by an altered state of blood, or a clot in one of heart's cavities, giving rise to an *inorganic*, or *functional*, or *hæmic* murmur.

Lining membrane, valves, and orifices of left side of heart much more frequently diseased than those of right. Signs of disease of *aortic* and *mitral valves* may be thus briefly given:—

Aortic obstruction.—Systolic murmur, often rough, at right second intercostal space and along great arteries. Pulse regular, small, and slow (retarded by the narrowed orifice).

Aortic regurgitation.—Diastolic murmur, usually smooth, at right second space, and downwards along sternum or towards apex. Pulse regular, jerking, and collapsing, "locomotive;" visible and audible. Most commonly there is also obstruction and the murmur is double.

In aortic disease the left ventricle becomes hypertrophied, and the apex-beat is displaced downwards.

Mitral regurgitation.—(The most common form of valvular disease). Systolic murmur at and to the left of the apex-beat. Backwards into the axilla and behind. Pulse irregular in force and frequency, soft and weak.

Mitral obstruction.—Presystolic murmur of vibratory character at inner side of apex, frequently accompanied by thrill. First sound sharp. Second often reduplicated and pulmonary second sound accentuated.

In later stages the second sound ceases to be audible at the apex, and the presystolic murmur is absent, so that peculiar sharp, loud first sound at apex the only sign. When complicated by mitral or tricuspid regurgitation, diagnosis difficult. Pulse usually regular, but small and weak, artery usually full between the beats.

In mitral disease the right ventricle becomes hypertrophied in consequence of obstruction to the passage of blood through the lungs, and the apex-beat is displayed to the left of its normal position.

Tricuspid regurgitation.—(Usually secondary to mitral obstruction or regurgitation.) Systolic murmur near ensiform cartilage. Pulsation in jugular vein.

Murmurs in Pulmonary Artery, usually hæmic, sometimes caused by the vessel not being overlapped by lung ; can be traced from middle of left edge of sternum up towards left clavicle : cannot be heard in subclavian or carotid arteries. Pulse remains unaltered.

To determine systolic or diastolic character of a murmur, the apex-beat or the pulse in the carotid should be carefully noted during auscultation : if systolic, the bruit must be synchronous with carotid pulse ; if diastolic, after it ; if presystolic, just before it, and running up to the apex-beat.

TREATMENT. Three indications to be followed :—(1) To abate inordinate action by cautious use of sedatives. Digitalis. Strophanthus. Belladonna. Hydrocyanic acid. Aconite. Conium. Henbane. Hop. Opium, or morphia, especially the first two. (2) To ward off or relieve results of cardiac disease,—as pulmonary congestion, pneumonia, hæmorrhage, congestions of liver and kidneys, dropsy, &c. A nutritious diet. Mercurial and saline purgatives. Blue pill, colchicum and colocynth. 46. Blue pill, ipecac. and rhubarb or colocynth, 171. Gamboge and blue pill, 174. Sulphate of soda, 144. Cream of tartar and buchu, 222. Cream of tartar and taraxacum, 228. Diuretics,—Squills and digitalis, 219, 224. Potash and digitalis, 220. Salicin, 388. Elaterium, 157. Resin of podophyllum, 160. Digitalis and calomel, 230. Small punctures at various parts of anasarcous legs, best on dorsum of foot with use of Southey's tubes. (3) To impart strength and tone to heart. Nourishing food. French, German, or Hungarian wines. Warm clothing. Cod liver oil. Ferruginous tonics,—Quinine and steel, 380. Steel and glycerine, 392. Steel and pepsine, 394. Saccharated carbonate of iron, 396. Steel and ammonia, 401. Phosphate of iron, 405. Digitalis.

Caffeine. Convallaria. Nux vomica. Tepid salt-water sponge baths, 127.

CARDIALGIA.—From Καρδία, the heart; ἄλγος, pain. Synon. *Heartburn.*—The uneasiness is popularly believed to be around the heart.—See *Gastralgia.*

CARIES.—From *Caries*, rottenness. Synon. *Rarefying osteitis. Ulceration of Bone.*—A disease of bone, characterised by inflammation, rarefaction, molecular disintegration, and loss of substance of bone tissue. The inflammatory exudation in the bone and surrounding soft parts tends to caseous degeneration and suppuration. Most frequently attacks the vertebræ, short bones, or cancellated extremities of long bones (as tibia). Frequently due to scrofula, syphilis, abuse of mercury. When caused by syphilitic taint, cranial bones often affected.

Symptoms. Commonly obscure at first; apt to be attributed to rheumatism. Deep-seated pain. Redness and swelling of tissues over affected part. Abscess, which on bursting discharges a fetid sanious pus loaded with bony granules. On introducing a probe, it easily passes to the bone and sinks into it. Fistulous openings. Constitutional disturbance.

Treatment. Eradication of constitutional disorder. Tonics; nourishing food; cod liver oil; sea air. Iodide of potassium and bark, 31. Iodide of iron, 32. Chemical food, 405. *Locally:*—Great cleanliness. Astringent lotions and injections. Other remedies failing, removal of diseased portion of bone by gouging or by excision of entire bone.

CATALEPSY.—From Καταλαμβάνω, to restrain, or hold firmly. Synon. *Hysteria Cataleptica.*—A sudden suppression of consciousness and volition; patient remaining during attack in same position in which she happens to be at commencement, or in which she may be placed during its continuance. Seizure may last a few minutes, several hours, or one or two days. Recovery occurs suddenly as from a deep sleep, without recollection of what has occurred. Nervous and hysterical women suffer from these attacks more frequently than other persons. Danger absent; very rarely the disease is associated with apoplexy or insanity, possibly when connected with chronic softening or with tumour of brain.

Absence of mind a slight form of catalepsy. True mesmerism another variety. The disease has sometimes been endemic.

For treatment, see *Hysteria.*

CATARACT.—From Καταρράσσω, to confound; because the sense of vision is confounded or obscured, if not destroyed (Mayne).—Consists of an opacity of the crystalline lens, or of its capsule, or of both; the effect being to intercept the rays of light on their way to the retina. This is usually a senile change, but may occur in some cases of diabetes or albuminuria. Three forms usually recognised, according to situation of opacity—viz., lenticular, capsular, and capsulo-lenticular.

SYMPTOMS. Hard or lenticular cataract of old people the most common form. Met with in men and women between fifty and seventy years of age. Causes objects to appear as if obscured by a thick cloud or gauze; allows vision to be most clear when pupil is dilated, as by use of atropine or duboisine, or by light being dull and subdued. In advanced cases vision reduced simply to perception of light from darkness. Commonly one eye first affected, and then the other. Movements of iris natural; when pupil is dilated by atropine, cataractous opacity can be distinctly seen with a convex glass of about one-inch focus. In commencing cataract, lenticular opacities not otherwise perceptible may be seen with the ophthalmoscope as opaque striæ, occupying either the anterior or posterior segment of the lens, and springing from the centre of the crystalline, or converging towards the centre from the circumference.

Soft or lenticular cataract of young people may occur at any time of life. Congenital cataract of this kind. Due to disintegration of whole substance of lens, which becomes opaque and swollen. Symptoms much the same as of hard kind, except perhaps that vision is more imperfect. There appears to be some connexion between diabetes and soft cataract.

Capsular cataract may result from chronic inflammation. Opacity of a dead white colour; commonly affects part or whole of anterior wall of capsule, or it may perhaps be confined to a posterior portion.

Opacity of capsule always leads to opacity of lens, so that capsulo-lenticular cataract is common.

TREATMENT. Atropine drops, 288, or duboisine, 289, gr. 1 in ℥j, may be used if vision is improved thereby. *Solution* or *absorption*, in which the body of lens is broken up, at several sittings, with a fine needle entered through the cornea, so that it may undergo absorption. Only suitable for soft cataract in infancy and youth. *Extraction*, in which opaque lens is removed entire through an incision in the cornea, with or without antecedent iridectomy. Local application of cocaine facilitates these operations and avoids the dangers caused by vomiting after anæsthetics.

CATARRH.—From Καταῤῥέω, to flow down little by little.—Inflammation of mucous membrane; usually applied to inflammation of mucous membrane of some portion of air-passages. Known as *coryza*, if it affect Schneiderian membrane of nose; *gravedo*, if frontal sinuses suffer; *bronchitis*, when stress of disease falls on trachea and bronchial tubes. *Aural* catarrh, *intestinal* catarrh, are also spoken of.—Catarrh as affecting mucous lining of nose and throat, one of the commonest of diseases.

SYMPTOMS. Lassitude; pains in limbs; aching of back; sense of tightness across forehead; excessive discharge from nostrils; profuse lacrymation; hoarseness; sore throat; furred tongue; more or less feverishness; thirst; loss of appetite; quick pulse. An eruption of herpes appears upon lips; most frequently about angles or middle of lower lip.—At end of some forty-eight hours symptoms begin to subside; or disease passes into a more severe affection, acute tonsillitis, bronchitis, pneumonia, &c.

TREATMENT. Warm bath. Foot bath. Turkish bath. Powder of ipecacuanha and opium. Diaphoretics. Aconite. Warm clothing. An extra glass or two of wine. White wine whey at bed-time.

CELLULITIS, PELVIC.—See *Parametritis.*

CELLULITIS VENENATA.—Synon. *Diffuse Cellular Inflammation.*—Diffused inflammation beginning in the subcutaneous connective tissue, arising from punctures received in dissecting the dead body, or from bites, especially of viperine snakes and insects that feed on carrion, &c. Said to occur without septic inoculation in unhealthy states of system, from breathing vitiated air, &c.

SYMPTOMS. Acute infective diffuse inflammation of subcutaneous connective tissue. Skin secondarily involved. (Phlegmonous erysipelas *begins* in skin.) Sometimes pleuro-pneumonia. Redness and tenderness of lymphatics. Rigors. Pain. Suppuration. Sloughing. General symptoms of acute septicæmia.

TREATMENT. Bark, 371, 376. Quinine in large doses, 379, 386. Sulphite of magnesia, 48. Chlorate of potash, 61. Tincture of perchloride of iron and glycerine, 392. Brandy and egg mixture, 17. Fomentations. Poultices. Incisions.—See *Septicæmia.*

CEPHALALGIA.—From Κεφαλὴ, the head; ἄλγος, pain. Synon. *Cephalodynia; Dolor Capitis.*—See *Headache.*

CEPHALOHÆMATOMA.—From Κεφαλὴ, the head; αἱμάτωμα, a sanguineous tumour. Synon. *Cephalæmatoma; Ecchymoma Capitis recens Natorum; Thrombus Neonatorum.*—A bloody tumour, developed immediately after birth, between bones of skull and pericranium. It is probably caused by long-continued pressure upon fœtal head during a difficult labour.

SYMPTOMS. Tumour varies in size from that of a hen's egg to that of a large orange. Is generally formed on one or other of parietal bones: on right more frequently than left; and occasionally on both.—Swelling soft, circumscribed, and fluctuating; its base often becomes encircled by a hard ring, probably caused by coagulation of the plasma exudation which is poured out by irritated pericranium.

TREATMENT. Generally best to leave the case alone: effusion becomes absorbed in course of two or three weeks. In some instances, absorption may be hastened by use of evaporating lotions. Avoid the practice sometimes recommended of incising tumour, removing blood, and applying compression. Should suppuration take place, the pus must be evacuated, and case treated as a dangerous abscess.

A kind of false cephalohæmatoma sometimes produced by effusion of blood into connective tissue between aponeurosis of scalp and pericranium. It requires no treatment.

CEREBRAL HÆMORRHAGE.—From *Cerebrum*, the brain ; *Αἷμα* blood ; *ῥέγνυμι*, to break out.—Usually due to structural changes in minute vessels, atheroma, fatty degeneration, &c., and if these be combined with cardiac hypertrophy, dilatation of right cavities of heart, or renal disease, it may be looked for ; may be traumatic (when hæmorrhage is usually on the surface of brain), or caused by embolism, thrombosis, rupture of aneurism or artery at base of brain, &c. There may be symptoms of apoplexy, but not necessarily. Main feature, more or less paralysis on side of body opposite to that on which clot is formed. May come on in various ways. 1. With apoplectic phenomena, on the subsidence of which hemiplegia remains. 2. During sleep, patient waking up hemiplegic. 3. Patient loses use of one side, falls or staggers, feels faint, is giddy and confused, but does not lose consciousness. May vomit later, gradually becomes comatose (this form generally fatal). 4. Simply becomes suddenly hemiplegic. Sensation may or may not be affected.

Thrombosis usually occurs in an old person and the onset of symptoms is gradual. In *Hæmorrhage* there is usually loss of consciousness or some sudden marked symptom. In *Embolism* sudden hemiplegia without loss of consciousness after exertion, and possibly aphasia.

Most common seat of hæmorrhage, corpus striatum, next thalamus, then hemisphere. It may also occur on surface, in cerebellum, crura, pons, or medulla. The special symptoms attending meningeal hæmorrhage when considerable are convulsions, coma, irregular form of paralysis. Hæmorrhage into pons or medulla is generally rapidly fatal. May give rise to various kinds of crossed paralysis ; when pons affected, pupils greatly contracted. Many cases of cerebral hæmorrhage recover, provided recourse be not had to active treatment. Patient rarely seen until after the effusion, when blood-letting and purgatives powerless to remove clot, or to prevent further escape of blood. Rest in sitting posture, with a nutritious but unstimulating diet, aperients, and treatment of special constitutional conditions, will effect all that is possible. Bleeding only if there is marked plethora.

CEREBRAL INFLAMMATION.—The study of brain diseases is hardly sufficiently advanced to permit of a certain diagnosis between inflammation of substance of brain (*cerebritis*), and that membranes (*meningitis*). Distinction not of great importance. only a few instances does meningitis or cerebritis occur alone. majority of cases the two affections are combined (*ence-* *alitis*).

SYMPTOMS. Common to almost all forms of cerebral inflam- ation are pain in the head, vomiting (sometimes absent), a ow, frequent, or irregular pulse, often with contraction of the terioles and high tension, irregular or sighing respiration, ex- vation of the abdomen, and frequently double optic neuritis.

1. **Simple Meningitis.**—From Μῆνιγξ, a membrane; terminal *is*. Synon. *Encephalitis Membranosa.*—Inflammation of arach- oid and pia mater may arise without apparent cause; or may be oduced by a fall or blow, by extension of disease from ear or ose, or by exposure to the sun. May also arise from syphilis or eumatism; from tubercle (see *Tubercular Meningitis*).

SYMPTOMS. Fever. Rigor. Vomiting. Temperature not very gh. Acute pain in head. Irritability, with early and violent elirium. Frequent flushings of face, followed by pallor. rregular or rapid pulse. Sighing, irregular respiration. Mus- ular twitchings. Prostration and coma.

Inflammation of membranes over convexity of brain:—First, a gor; or in children, a convulsion. Then, skin gets hot and ry; pulse hard and rapid; usually vomiting comes on; bowels onfined. Intense headache, increased by sound or movement. ace alternately flushed and pallid; conjunctivæ injected, eyes uffused and staring. Noisy and violent delirium sets in early. reat restlessness; muscular twitchings; strabismus. At end f three or four days, fever lessens; pulse flags, often slow but eadily accelerated; tongue gets brown and dry; pupils sluggish nd dilated; excitement diminishes; delirium apt to pass into oma. In a few days more, intense prostration. When disease nds favourably, improvement very gradual: no critical sweat or iarrhœa.

Meningitis confined to base:—Diagnosis difficult. Sometimes convulsions or delirium at commencement; fever; squinting, contracted pupils; optic ischæmia or neuritis; frequent pulse; lenching of teeth; when round medulla, retraction of head. Coma. In other cases, pain in temples; vomiting, constipation; wry-neck; loss of appetite; a desire for repose. After a few days, vacant look; dejection; intelligence clear; pulse and skin natural. Headache unrelieved. Coma, sometimes ushered in by severe convulsions, ending in death.

Inflammation of dura mater:—Frequently the result of violence: of disease of cranial bones, particularly of petrous portion of temporal or of ethmoid. Chronic affections of ear and nose in children, regarded as trifling, may end fatally by rapid extension of morbid action to dura mater.

TREATMENT. See *Acute Encephalitis*.

2. **Cerebritis.**—From *Cerebrum*, the brain; terminal *-itis*.—

Partial or general inflammation of brain substance without meningitis. Of rare occurrence.

SYMPTOMS. Persistent deep-seated pain in head; general malaise and vomiting; impairment of vision and hearing; confusion of ideas with failure of memory; convulsive paroxysms, ending in paralysis or coma. Mental disturbance varies considerably according to part of brain affected. After three or four days there may be a copious effusion of serum: symptoms of compression. Sometimes, inflammation ends in abscess; suppuration occurring without exciting any suspicion.

TREATMENT. See *Acute Encephalitis.*

3. Acute Encephalitis.—From 'Εγκέφαλος, that which is in the head; terminal *-itis*. Synon. *Meningo-cerebritis; Phrenitis.*—The inflammation gives rise to more or less complicated phenomena during life, according to degree and extent to which brain and its membranes are involved. Post-mortem appearances: meningeal congestion, with effused lymph or serum or pus; vascularity, varying from bloody points, or a scarlet tinge, to a dusky redness of brain substance at affected part; with occasionally softening, or suppuration.

SYMPTOMS. Earliest indications, fever; vomiting; acute headache; sharp and hard and irregular pulse; constipation; impatience of light and sound; watchfulness; a look of oppression or sullenness; suffusion of eyes; hyperæmia of optic discs; confusion of thought or even delirium. These symptoms most marked when meningitis predominates.—After from twelve hours to two days, second stage of the complaint sets in—period of collapse. State of stupor; articulation difficult or indistinct; vision and hearing dull; pupil—from having been contracted to a pin's point—becomes dilated; optic neuritis; perhaps squinting, and paralysis of muscles of eyelids; frequent twitchings of muscles; ghastly countenance; sordes on gums and teeth; cold sweats; relaxation of sphincters; convulsive paroxysms, paralysis, and profound coma, which usually soon ends in death.—Occasionally the first symptom, a sudden attack of convulsion; perhaps occurring without previous illness, or preceded by headache and slight complaints which have passed on unnoticed. Convulsion generally long and severe; may be followed immediately by coma, which is soon fatal; or it may recur frequently at short intervals, and pass into coma at end of twenty-four hours. When nausea and vomiting are earliest symptoms, disease has probably had its origin in cerebral pulp; when attack begins with a convulsion, the inflammation has started from arachnoid or pia mater (Watson).

In all forms of this dangerous complaint, symptoms variable. Caution necessary against insidious character which many cases assume, and deceitful appearances of amendment. Disease rare. May end fatally in a few hours, or patient may struggle on for two or three weeks.

TREATMENT. Calomel and jalap, followed by sulphate of agnesia, 140. Jalap and senna, 151. Calomel and scammony, jalap, 159. Antimony and sulphate of magnesia, 152. Croton , 168. Castor oil and turpentine enema, 190. "More reveries from head-affections of the most alarming aspect take ace under the use of very strong purging than under any other ode of treatment" (Abercrombie). Mercury as calomel or blue ll or grey powder. Iodide of potassium (grs. 3 to 8 every four six hours). Bromide of potassium, gr. 10–15, every four urs. Tincture of aconite. Milk diet. Head to be shaved. unded ice in a bladder, to scalp; or cold evaporating lotions, 3. Excess of temperature reduced, and excitement calmed, by uring cold water in a stream upon vertex of head. It must be membered that cold to head exercises a very depressing influce: hence, case must be carefully watched. As soon as treme collapse sets in from exhaustion of nervous force stimunts will be needed. Ammonia. Spirit of ether. Brandy or ine. Strong beef tea. Milk or cream.

Sometimes terminates in abscess, especially in connection with jury, bone disease, or pyæmia. See *Abscess of Brain.*

Remedies sometimes employed:—General and local bleeding. rastic purgatives, long continued. Antimony. Digitalis. Opium ombined with antimony. Blisters, or ointment of tartarated ntimony to scalp, after shaving. Mustard pediluvia.

4. **Tubercular Meningitis.**—Synon. *Acute Hydrocephalus: Water rain Fever.*—Acute inflammation of brain not uncommon in *ildren* from two to ten years of age. The disease may occur in ose previously healthy when it is a form of *simple* encephalitis. ost frequently the children are scrofulous; the inflammation eing a result of tubercular deposit in brain or membranes. It then known as *tubercular* meningitis. Formerly named acute ydrocephalus.

POST-MORTEM APPEARANCES.—Tubercular meningitis almost lways basic. Exudation of yellow lymph or serum at interpe- uncular space and adjacent parts, minute granulations (tuber- ular) in membranes here; often well seen in fissures of Sylvius. Iuch fluid in ventricles and frequently softening of surrounding rain substance. Tubercles nearly always present in other rgans.

SYMPTOMS. Various and uncertain. Often simulates typhoid r infantile remittent fever. *Premonitory stage:*—Indications of al-nutrition; loss of flesh. Signs of strumous diathesis. Short, ry cough; peevishness; occasional headache, giddiness, and ther warnings of cerebral congestion; feverishness, with xacerbations and remissions; capricious appetite; tongue furred nd breath offensive; sickness and constipation. Child drowsy, et restless; moans or grinds his teeth; wakes in alarm and screams. These symptoms may be present for weeks or even onths, and are considered to indicate the presence of tubercles.

When inflammation sets in three stages are described, but they are not always recognisable, and the disease is often obscure and uncertain till convulsions or coma set in.

First stage; stage of excitement or of *quick pulse.*—Child wishes to be left quiet. Countenance alternately flushed and pale, expressive of suffering; eyes closed and eyebrows knit. Pupils contracted, intolerance of light and sound; purposeless vomiting; bowels usually confined. If old enough to reply to questions, complaint made of headache and weariness and sleeplessness; frequent exclamations—"Oh, my head!" Sometimes delirium; pulse frequent; abdomen retracted. *Tâches cérébrales* elicited.

Second stage; stage of depression or of *slow pulse.* Pulse less frequent, perhaps falling from 140 to 80; irregular; made more rapid by exertion or excitement. Remission of all symptoms. Amendment of short duration. Stupor and heaviness come on. Squinting. Child lies insensible, probably picking his nose and lips with tremulous fingers. Convulsions; perhaps paralysis. Urine and fæces passed unconsciously.

Transition *to third stage*, at end of a week or two, effected gradually by drowsiness passing into profound coma, or abruptly by convulsion leaving coma. Pupils dilated and insensible. Pulse gets very feeble and frequent; extremities lose their warmth, cold clammy sweat breaks out. Paralysis, perhaps convulsions. Sometimes death does not occur for several days.

In tubercular meningitis characteristic appearances of ischæmia or optic neuritis may generally be observed at fundus of eyeball, by ophthalmoscope, before convulsive period sets in. These are,—(1) Swelling and redness of papilla, which is no longer defined, with spots of congestion in retina and choroid. (2) Dilatation of retinal veins about papilla. (3) Varicosity and flexuosity of these veins. (4) Thrombosis of same. And (5) in some instances, serous infiltration with retinal hæmorrhages from rupture of veins (Bouchut).

Tubercular meningitis in *adult* usually preceded by history of previous lung affection. Amelioration of chest disease. Symptoms may early assume an apoplectic or a convulsive form. More frequently they come on gradually with vomiting, slight fever, acute pain in head; patient seems unable to collect his thoughts, is peevish and irritable, desirous only to be left quiet; there may be mutism and somnolence; pulse irregular and feeble. In second stage, depression increases; greater mental dulness or delirium; clonic or tonic spasms. In third stage, sphincters relax; increasing stupor; paralysis; death.

Treatment. Bowels to be cleared out by calomel and jalap. Iodide, or bromide of potassium, or both, with small doses of tincture of aconite, according to age. Cold evaporating lotions to head, 273. If child be teething, employ gum lancet when gum is tender and hard and swollen. Where there is depression of vital powers use stimulants—ammonia, ether, port wine. If nptoms be subacute, hypophosphite of lime or soda and bark. d liver oil. Sea air. Pure milk.

i. **Chronic Encephalitis.**—May follow acute inflammation; re frequently an independent primary disorder, occurring er middle age as a result of injury to the skull, prolonged xiety or mental labour, chronic alcoholism, tumours or oosits, especially syphilitic.

SYMPTOMS. Of a subacute character. Very diversified; allied those which mark commencement of insanity Great mental citement, or depression. Delusions. Hesitation in speaking, slight stammering. Stiffness of some muscles. Slight head-ne. Loss of appetite. Constipation. Irregularity of pulse. bsequently, symptoms become more marked; memory fails, ernal senses get impaired, paralysis, break up of general alth. Disease may last for only a few months or for years.

TREATMENT. Attempts to combat symptoms as they arise. od food. Hygienic measures to improve general health. tention to digestive and uterine organs. Cod liver oil. Small sters behind ears, often repeated. A seton in nucha. Some-nes, inunction of shaved scalp with iodide of potassium, or red lide of mercury, ointment. If a history of syphilis, give rchloride of mercury with bark.

63. **Induration of Brain.**—Synon. *Sclerosis.*—Termination of ute or chronic inflammation. Indurated portion of small tent; presents appearance of wax, or white of egg boiled hard. mptoms obscure.

Disseminated Cerebro-Spinal Sclerosis or Induration.—Small durated patches are distributed in varying number in the ain and spinal cord, mostly in the white substances; they turn akish on exposure. The symptoms vary according to the mber and situation of the sclerosed patches; the most aracteristic are tremor of the limbs and shaking of the head ienever the muscles are in action; during repose there is no ovement. The lips and tongue usually also tremble when the tient speaks, and the speech is slow and tremulous. Intellect feebled. Epileptoid attacks not uncommon.

Treatment rarely of any service.—Nitrate of silver, iodide of tassium. Mercury may be tried.

7. **Abscess of Brain.**—Usually due to injury, or to disease of ternal ear and petrous bone, more rarely of nose and ethmoid. ay be *acute*, when symptoms those of severe cerebritis, pain in ad, vomiting, fever, delirium, ending in coma; or *chronic*, ien very insidious, headache, dulness of intellect, &c.; some-nes hemiplegia gradual in access; occasionally convulsions d death from bursting of abscess into ventricle. Double optic uritis usually present

TREATMENT.—Mercury or iodide of potassium. If abscess can be localised, trephining may be successfully performed, and the pus evacuated.

8. **Softening of Brain.**—Softening, or ramollissement, may be inflammatory, but is more commonly atrophic, and caused by imperfect blood-supply due to arterial degeneration or obstruction from embolism or thrombosis. General symptoms of chronic *cerebral softening*:—More or less severe and persistent pain in head. Sudden and short attacks of vertigo. Diminution of intellectual power, slow and hesitating speech, embarrassment in answering questions, depression of spirits, tendency to shed tears on any excitement. Prickings and twitchings in limbs, perhaps pain or numbness. Tendency to sleep, especially after meals. More or less impairment of vision and hearing. While mental faculties impaired, appetite often good, and patient may get fat. In inflammatory softening, headache more acute than in other forms; limbs become the seat of painful cramps, stiffness, or contractions; paralysis with spasm not uncommon; permanent contraction of flexor muscles of one or both extremities; general sensibility more acute.—In more advanced stage of either inflammatory or non-inflammatory form:—Paralysis of a limb, or of one-half of body, coming on suddenly without loss of consciousness. Patient easily confused; has a difficulty in answering questions, and in making himself understood. Speech slow and sometimes syllabic; articulation indistinct. Feebleness; weak and intermitting pulse. Vomiting and constipation. Difficulty in emptying bladder. Involuntary escape of stools. Respiration laboured; at last becomes stertorous. Coma, ending in death. Disease most common after fiftieth year.

Acute ramollissement (from *ramollir*, to make soft), or *red softening* of brain, formerly considered inflammatory, usually from embolism or other obstruction in a cerebral artery. Affected portion reduced to consistence of cream; if of limited extent, absorption may take place, leaving a yellow patch.

Symptoms. Vary with part affected; usually hemiplegia coming on suddenly without loss of consciousness; later, some of symptoms described in previous paragraph. Yellow and white softening are often later changes in the red variety.

White softening, met with in aged persons as a primary disease. Insufficient supply of blood to brain, owing to disease of cerebral arteries, or obstruction by fibrinous masses, probably leads to fatty degeneration of brain tissue. Portions most frequently affected—grey matter of convolutions at base, optic thalami, corpora striata.

Softening of cerebellum:—Attended with fixed pain at back of head, especially on diseased side. Occasional amaurosis; hemiplegia or paraplegia; a tendency to walk backwards; tottering gait; vertigo; semi-convulsive agitation of limbs; obtuse hearing; aphonia. No two cases exactly alike. Abscess of cerebellum sometimes due to disease of ear and mastoid cells.

9. Tumours of Brain.—Simple or malignant; glioma, syphi- ma, scrofulous, or tubercular tumours; hydatids.

SYMPTOMS. Often obscure. The most constant are pain in ead, vomiting, and double optic neuritis. Other symptoms cording to situation of growth; if on surface, convulsions; if motor ganglia, hemiplegia; if involving crus cerebri, pons, or edulla oblongata, some form of cross paralysis; if cerebellum, nsteady gait, loss of energy, &c.

10. Hypertrophy and Atrophy of Brain.—*Hypertrophy* of cere- ral hemispheres has occurred in children: more common be- veen 20 and 30 years of age. Increase of volume due to con- ective tissue. If skull increases as brain gets over-developed nere may be an absence of symptoms, until a sudden attack of onvulsions ends in death. When bony case does not enlarge, here are necessarily indications of compression: mental dis- urbance, varying from slight dulness of intellect to complete liocy. Headache; vertigo; loss of muscular power or paralysis; naltered or very slow pulse; severe epileptic convulsions. Death n latter, or from subsequent coma.

Atrophy may vary from a complete absence of cerebral hemi- oheres incompatible with extra-uterine life, to a simple incom- lete development of certain convolutions above ventricles. When trophy affects one side only, life may be uninterfered with for ome time.

CHANCRE.—(1) CHANCROID OR LOCAL CONTAGIOUS SORE.— ccompanied by suppurative inflammation. It is a local disease, ot followed by secondary symptoms, and begins as a small lcer about five days after infection. There are one or more sores, ith sharp-cut edges. The secretion abundant and purulent; uto-inoculable; great tendency to bubo. Ferruginous tonics. ourishing food. Wash sore twice daily, dry, and sprinkle eely with iodoform. Black wash on lint is less efficient. For ue Chancre, see *Syphilis*.

(2) PHAGEDÆNIC CHANCRE.—Accompanied by ulcerative nflammation. The ulcer is small, irritable, ragged, secreting nhealthy pus. The sore has a tendency to spread irregularly. . suppurating bubo forms, which yields inoculable pus. Fomen- ations and poultices, or soothing lotions. Lotion of tartrate of on. Bark and nitric acid. Ferruginous tonics. Iodide of otassium and sarsaparilla. Nourishing diet, no stimulants.

(3) SLOUGHING CHANCRE, OR GANGRENOUS PHAGEDÆNA.— ccompanied by mortification. It does not affect the inguinal lands, is not usually followed by constitutional infection, and equires only local treatment. A true syphilitic chancre may, owever, take on a sloughing character. Sometimes the disease o severe that the prepuce and a portion of the glans may be lestroyed. In enfeebled prostitutes the whole of the labia and ymphæ may slough away. Fomentations and poultices.

Patient made to sit in hip-bath of water kept at temperature of body for twenty-four or forty-eight hours or longer. Opium. Nourishing food. Stimulants. Confinement to bed.

CHAPPED HANDS.—May be due to imperfect drying after washing; to use of irritating substances—common yellow soap, &c.; to cold; to wearing coarse woollen gloves which fret the hand when moist from perspiration.

TREATMENT. Protection from atmosphere. Thorough drying after washing. Dusting with powdered starch; spermaceti; white bismuth; oxide of zinc; carbonate of zinc. Camphor and vaseline. Glycerine soap. Glycerine and starch. Pure honey soap. Glycerine and rose-water—equal parts Collodium. Ointment of oxide of zinc. Ointment of carbonate of lead. Ointment of subacetate of lead. Ointment of spermaceti. Diluted citrine ointment, 305. Ointment of balsam of Peru and spermaceti, 306. Lotion of nitrate of lead (gr. 10 to fl. oz. j).

CHARCOT'S JOINT.—A series of changes in the articular ends of bones observed in locomotor ataxy. The changes resemble those seen in osteo-arthritis. The wasting of the head of the bone is often extreme.

CHICKEN POX.—Synon. *Varicella.*—A trifling infectious complaint, almost peculiar to infants and young children. Runs through all its phases in six or eight days. Consists of an eruption of pimples, which on second day become converted into transparent vesicles surrounded by slight redness. Rash comes out in successive crops on all parts of the body, and affects the scalp, but usually spares the face; about fourth day the vesicles form small scabs, which rapidly desiccate. No constitutional disturbance of importance; accompanying pyrexia slight. A gangrenous variety mostly ending fatally has been met with.

Occurs but once to same person. Has a long period of incubation, 14 to 20 days. Requires no treatment beyond attention to bowels, and restricted diet. Quinine bark, steel wine, or cod liver oil, often needed during convalescence. Application of oil to relieve irritation of skin. May leave boils or pustular eruption. If suppuration occurs beneath the scab, pus should be liberated by poulticing.

CHILBLAIN.—From the Saxon *Céle*, cold; *blégen*, a boil or ulcer—*i.e.*, a blain caused by chilliness or cold (Mayne). Synon. *Pernio.*—A subacute inflammatory swelling, due to cold and the premature restoration of the circulation by heat.

SYMPTOMS. A feeble circulation,—cold feet and hands. In the first stage, swelling and slight redness and pain or itching; in the second, vesication; in the third, ulceration or sloughing. Parts most exposed, and where circulation is weakest, most prone to suffer. Occurs in weakly constitutions, strumous children.

TREATMENT. Bark and port wine. Milk; nourishing food. Cod liver oil. Chemical food, 405. Avoid quickly exposing hands and feet when cold to heat. Fire in bed-room. Warm stockings and gloves. Avoidance of tight shoes. Restore normal circulation by friction. Cover part with zinc ointment and cotton wool. Apply stimulating liniments, as soap, chloroform, compound camphor, turpentine or iodine. Blisters should be opened and surface dressed with tinct. benzoini co., unguentum resinæ or Peruvian balsam. Tonics, as iron, quinine, &c.

CHIMNEY-SWEEPER'S CANCER.—A form of cancer produced by irritation of soot lodged in folds of prepuce or scrotum. It is still less rare amongst sweeps than generally supposed.

SYMPTOMS. Commence as a tubercle or wart. After a variable interval, a fungous sore with ragged edges forms; then great pain, malignant ulceration and cachexia. Death sometimes hastened by hæmorrhage.

TREATMENT. It is one of the least malignant forms of cancer. Results of operation are favourable. Neighbouring glands must be excised if affected. Free and early extirpation.—See *Cancer*.

CHLOASMA.—From Χλοάζω, to be of a greenish yellow colour. Synon. *Pityriasis Versicolor*.—A parasitic cutaneous disease due to microsporon furfur.—See *Tinea Versicolor*.

CHLOASMA UTERINUM.—Applied to pigmentary deposits seen on forehead and below the hair in women suffering from uterine disease.

CHLOROSIS.—From Χλωρὸς, green. Synon. *Pallor Virginum; Green Sickness*.—A peculiar form of anæmia, affecting young women, about the age of puberty. The red blood corpuscles are pale, small, and diminished in number. The serum is in excess.

SYMPTOMS. Wax-like hue of face, yellow pallor of skin, whence popular name of "green sickness." Deficient or depraved appetite. Constipation. Abundant limpid urine. Weak quick pulse. Shortness of breath. Pale scanty menstrual discharge. Leucorrhœa. Hysteria. Listlessness. Headache. Backache. Pain in side. Palpitations. Cardiac and vascular murmurs. Not uncommonly œdema of the legs. Occasionally enlargement of thyroid and protrusion of eyeballs.

TREATMENT.—Good living. Pure air. Sea bathing. Chalybeates, 404. Aloetic aperients, 175. Blaud's pills.—See *Anæmia*.

CHOLÆMIA.—From Χολὴ, bile; αἷμα, blood.—The morbid state in which bile exists in the blood, owing to its re-absorption after having been formed by the liver.—See *Jaundice*.

CHOLERA.—From Χολὰς, the bowels ; ῥέω, to flow ; or, according to some authors, from Χολὴ, bile, and ῥέω. Synon. *Epidemic*, *Malignant*, *Asiatic*, or *Algide* (*Algeo*, to be cold) *Cholera.*—An epidemic disease ; conveyed from place to place by human intercourse ; not directly contagious, like scarlatina, or small-pox, but spread by contamination of drinking water by choleraic discharges, said to be due to comma-bacillus (Koch). This view not generally accepted.

SYMPTOMS. Sometimes preceded by simple diarrhœa : more frequently comes on suddenly without warning ; often in night about 2 or 3 A.M. Presents three stages :—(1) Violent diarrhœa and vomiting. (2) In addition, contracted pupil, spasms, cramps, coldness of body, and intermitting pulse. (3) Suppression of urine ; collapse (the *algide* stage) sometimes sets in at once and the patient dies without purging.

In detail these symptoms are copious vomiting, and purging in most cases, at first painless and without effort ; stools consist of an abundance of water, with flocculi of coagulated albumen (imparting rice-water appearance), a trace of biliary matter, and a large amount of salts (especially chloride of sodium). (2) Very shortly, severe cramps in lower extremities and abdomen, rendering muscles as hard as wood, or drawing them into knot-like masses. (3) Perhaps albuminuria, followed by suppression of urine. Urgent thirst. Diminished circulation and impeded respiration : hence, intense prostration, icy coldness of surface and tongue and breath. Lividity or blueness of lips and skin generally. Unnatural and whispering voice. Shrinking of whole body. Pinched features ; muddy looking complexion ; sinking of eye, with contracted and immobile pupil, and flattening of cornea :—the whole so peculiar that the expression is spoken of as the *facies choleritica.* Notwithstanding coldness of surface, complaint is made of oppression : patient often likes to lie uncovered. There soon follows a gradual lessening of breathing ; a thread-like pulse ; a clear intellect ; and a complete arrest of circulation.—Patients who survive eighteen hours frequently show signs of amendment ; occasionally get well rapidly ; pulse rising, and rice-water evacuations being replaced by stools containing bile. But often, improvement only transient ; stools, though less frequent, are free from bile ; suppression of urine continues ; and death is preceded by headache, drowsiness, tonic or clonic spasms, vomiting, stertor, and coma. In more favourable cases, a mild febrile exacerbation follows and subsides gradually in a few days ; or this consecutive fever is of a more severe tyye, and a low typhoid condition follows.

TREATMENT. *Prophylactic :*—Sanitary laws to be strictly obeyed. See Dr. Buchanan's report : Fifteenth Annual Report Local Government Board, 1886, p. 107. Avoidance of all doubtful food and impure water ; of too long abstinence from food ; of purgative medicines ; of over-fatigue ; of intemperance, uncleanliness, and of breathing vitiated air. Sulphuric acid lemonade to be taken as usual drink. Any tendency to diarrhœa to be checked by recumbent position; warm bath; sinapisms or linseed poultices to abdomen; very plain food; and simple astringents, ether, or spirit of chloroform.

Curative:—Only three points seem certain:—Except during the premonitory stage the purging is not to be checked; opium is most injurious; and the patient is to have cold water, or soda water, and ice ad libitum.

Cold compresses relieve the præcordial distress. Heat should be applied to the surface during the stage of collapse, and when reaction occurs the patient must be kept cool and light nutritious food given frequently in small quantities.

Dr. William Stevens' plan was more successfully used than any other, on a large scale, in the prison of Coldbath Fields, during 1832:—Patients presenting premonitory symptoms were removed into an observation ward, where an even temperature was constantly maintained. A Seidlitz powder was immediately given; if sinking were felt without purging, three or four teaspoonfuls of sulphate of magnesia were added to powder. These agents acting freely, plenty of thin and well-salted beef-tea was given: thirst was relieved with Seltzer, soda, or pure water without stint: if there were any pains, a sinapism was applied over gastric region. Most of the cases were thus cured.—If, however, cramps, coldness, or sinking of pulse came on, the following was given about every half-hour:—Chloride of sodium, gr. 20; carbonate of soda, gr. 30; chlorate of potash, gr. 7;—dissolved in water. If much irritability of stomach existed, a large sinapism was applied; if much heat or burning pain, an additional quantity of carbonate of soda was added to mixture.—In cases in stage of collapse, a strong solution of same salts, dissolved in hot water (100° F.) was thrown into rectum, and repeated every two or three hours. Sinapisms to stomach and between shoulders. Frictions with warm towels. Air of ward kept perfectly pure.

Dr. A. C. Macleod, after twenty years of Indian practice, recommends:—Calomel, in ten-grain doses, every half or even every quarter of an hour. A large blister to loins. Diffusible stimulants, regulated by state of pulse. Draughts of cold water ad libitum. Hot water bottles to feet. Assiduous rubbing, by three or four attendants, of abdomen and extremities with cajuput oil: while, in intervals of friction, the abdomen is to be covered with spongio-piline sprinkled with the oil.

According to the Cholera Report of the Royal College of Physicians (London, 1854), no appreciable effects followed the administration of calomel, even after a large amount in small and frequently repeated doses had been administered. For the most part it was quickly evacuated by vomiting or purging, or, if retained, was afterwards passed from bowels unchanged.

All authorities agree that patient should be isolated as far as possible. To be surrounded with pure air. To be kept in the recumbent posture. To avoid all water drawn from a well near any sewer. To have excretions received in a pan containing some disinfectant fluid, and immediately thrown away. Great caution with regard to diet during convalescence. Broths and farinaceous substances, without any solids whatever, until the biliary and renal secretions have been fully re-established, and all symptoms have vanished.

Remedies which have had advocates :—Bleeding. Cupping. Dry cupping. Exhausting apparatus of M. Junod. Blisters. Emetics. Purgative enemata. Astringent and opiate enemata. Injections of warm water, or of saline solutions, into veins. Inhalation of oxygen gas; of nitrous oxide. Sulphur. Sulphuric acid. Nitric acid. Nitro-hydrochloric acid. Quinine. Ipecacuanha. Indian hemp. Opium. Belladonna. Subcutaneous injections of atropine; of morphia; of sulphate of quinine; of camphor and turpentine; of curare. Injection into veins, during hopeless collapse, of warm water to the extent of several ounces; of warm water containing ½ per cent. of phosphate of soda and same quantity of common salt: of artificial serum. Brandy. Cajuput oil. Castor oil. Croton oil. Creasote. Carbolic acid. Chloroform. Nitrite of amyl. A dilute alcoholic solution of liquor potassæ. Charcoal. Permanganate of potash. A highly concentrated solution of camphor in alcohol (the "Rubini" specific). Saturated solution of camphor and chloroform. Ether. Sugar. Arsenic. Chloride of potassium. Sulphate of copper. One single large dose of calomel (30 grains). Acetate of lead. Logwood. Nitrate of silver. Infusion of Mikania Guaco. Petroleum. Phosphorus. Sumbul. Turpentine. Inoculation with quassia. Wet-sheet packing. Cold affusion. Hot baths, followed by cold affusion. Hot air baths. Vapour baths. Hot water baths. Mustard baths. Ice to spine. Galvanism. Actual cautery along spinal column. Vesication with boiling water. Acupuncture of heart.

The treatment most worthy of further trial is subcutaneous injection of morphia or atropia or chloral, which should be introduced deeply into the substance of a muscle, as the cutaneous circulation is suspended. Medicines taken by the mouth have little chance of absorption.

CHOLESTERÆMIA.—From Χολὴ, bile; *στερεὸς*, solid; and *αἷμα*, blood.—Blood-poisoning, owing to the non-elimination of cholesterine by the liver.—See *Acholia*.

CHOREA.—Χ*ορεία*, a dancing or jumping; from Χ*ορὸς*, a dance accompanied with singing. Synon. *Chorea Sancti Viti; St. Vitus' Dance*.—A disease characterized by irregular, and often ludicrous actions of voluntary muscles, especially those of face and limbs; there being incomplete subserviency of affected muscles to the will. Convulsion of motor area due to plugging of arterioles. Has been called "insanity of the muscles"—a better name "delirium of the sensori-motor ganglion." Mostly attacks girls between sixth and fifteenth years, though not uncommon in boys.

SYMPTOMS.—At commencement, slight clonic spasms of facial muscles, or of limbs on one side. By degrees almost all voluntary muscles affected. Child cannot keep quiet, though movements are to some extent under control of will: constant restlessness of hands and arms, perhaps of legs; most marked when patient sees she is watched. Features curiously twisted and contorted: vacancy of countenance. Articulation impeded. Temper irritable. Irregular appetite. Perhaps constipation. One half of body usually more affected than the other; disease may be confined entirely to one side—hemichorea. During sleep, irregular actions cease.

During progress, endocarditis or pericarditis may supervene. An anæmic murmur sometimes audible at base of heart. Or an organic murmur at apex. Sometimes sugar present in the urine. Rheumatic fever may precede, accompany, or follow chorea. Rarely terminates in epilepsy. Rarely dangerous to life except after puberty, or when secondary to endocarditis, in latter case often fatal.

TREATMENT. Nourishing food and general care will cure many cases. Regulation of bowels and of uterine functions if patient has reached the age of puberty; purgatives often very useful. Quinine, arsenic, and aperients. Saccharated carbonate of iron, 396. Steel and ammonia, 401. Steel and arsenic, 399, or arsenic and nux vomica. Quinine, steel, and arsenic, 381. Steel and zinc, 414. Oxide, or sulphate of zinc, 415. Chemical food, 405. Hypophosphite of soda or lime, with bark, 419. Conium in large doses. Cod liver oil, 389. In severe cases large quantities of food. Brandy, chloral, etherisation. Hands and joints to be packed in cotton wool for protection. Nutritious diet; milk. Ether spray along spine. Cold shower bath. Sea bathing. Exercise in pure air. Gymnastic exercises. Avoidance of mental excitement, long lessons, &c.

Remedies sometimes recommended:—Antimony. Valerianate of ammonia. Iodine. Calabar bean. Nitrate of silver. Sulphate of copper. Belladonna. Atropine. Indian hemp. Stramonium. Strychnia. Bromide of potassium. Hydrate of chloral. Turpentine. Assafœtida. Salts of cerium. Inhalation of chloroform. Sulphur baths. Galvanism. Blisters to spine.

CHOROIDITIS.—From Χόριον, skin; εἶδος, shape; terminal *-itis*.—Inflammation of the choroid,—the second, or vascular and pigmentary, tunic of the eyeball. *Disseminated.* Usually seen in children the subjects of inherited syphilis, or suffering from nervous exhaustion and addicted to masturbation. *Diffused.* In adults. Often syphilitic. Rarely or never seen alone; inflammation rapidly spreads to neighbouring textures of eye, producing disorganisation, &c. Ophthalmoscope useful only in chronic choroiditis. If seen early retina will be found elevated and uneven, and excessive pigmentation of affected spot or spots. Later, owing to atrophy and absorption, choroidal tissue is removed and whiteness of sclera seen surrounded by rings of pigment, which, if numerous, give the fundus a mottled look.

Symptoms. Intolerance of light, lachrymation, dimness of vision, and supra-orbital pain. Engorgement, more or less extensive, of conjunctival vessels. Displacement of pupil. Thinning of sclerotic, so that choroid is seen through it (staphyloma scleroticæ). Opacity of cornea. Enlargement of globe: sometimes suppuration and formation of fungous growths.

Treatment. Aperients. Rest to the eye, which should be protected from strong light. Lotion of physostigmine (2 gr. to ℥j) to be used to contract pupil and exclude light. Calomel and opium. Mercury. Iron with iodide of potassium or mercury. Warm baths and fomentations. Blisters to mastoid process or temporal region. Leeches. Tartar emetic ointment to temples. Later quinine. Arsenic. Cod liver oil.

CHYLURIA.—From Χυλὸς, the nutritive juice formed by digestion—chyle. Synon. *Galacturia.* The excretion of urine of a milky appearance from the presence of a substance like chyle. Uniformly associated with the presence in the blood of minute worms, embryonic forms of *Filariæ sanguinis hominis.* The adult worm is hard to find; it is about three inches long, and appears to inhabit normally dilated lymphatics. The young worms are also present in the milky urine. They are sometimes entirely absent from the blood and urine in the day time, yet swarm at night. The parasite appears to be conveyed to man by the mosquito. Chyluria is often associated with "lymph-scrotum" and elephantiasis arabum (which see).

The disease has been observed in China, Brazil, and other tropical and sub-tropical regions.

Symptoms. Lassitude. Pains about loins and epigastrium. Mental anxiety. Debility, and loss of flesh. Attacks intermit. Urine healthy for months, and then chylous for months.

Treatment. Gallic acid (gr. 20–80 thrice daily). Decoction of mangrove bark (Rhizophora racemosa). Tincture of perchloride of iron. Quinine and steel. Ammonio-citrate of iron. Cod liver oil. Opium. Turkish baths. Salt water baths. Tight belt worn round loins. Change of air,—a bracing, temperate climate. Nourishing diet.

CIRRHOSIS OF LUNG.—From Κιῤῥὸς, yellowish or tawny.—A consolidation or contraction of more or less of pulmonary tissue, accompanied with dilatation of bronchi.—See *Pulmonary Condensation.*

CLITORITIS.—From Κλητὴρ, one who calls or invites; terminal *-itis.* Synon. *Inflammatio Penis Muliebris.*—The clitoris occasionally attacked with subacute inflammation; leading to great pertrophy, or to cystic degeneration. May also be excessively veloped, from some congenital malformation. Sometimes the at of syphilitic or cancerous infiltration. Entire organ found seased, or only its prepuce.

Clitoris occasionally becomes indurated, with or without largement. The organ has been amputated with benefit when eatly enlarged.

CLUB-FOOT.—Synon. *Talipes;* from *Talipedo* (*talus* and *pedo*), walk on the ankles.—A gradual change in the forms and posi-ons of the tarsal bones, owing to undue action or paralysis of ertain muscles, or contraction of tendinous structures. May be ongenital or acquired. One or both feet affected. Four prin-pal varieties :—

1. Talipes Equinus.—Horse-heel. A rigid contraction of endo Achillis, so that the heel cannot be brought to the ground, nd the patient walks on the metatarsal bones. Usually acquired, ay occur during first dentition. Subcutaneous division of endo Achillis, afterwards fix foot with bandage in plaster-of-aris. If plantar fascia be tense, it must first be divided and oot kept for a fortnight in plaster-of-Paris and then divide tendo chillis.

2. Talipes Varus. — Commonest congenital form; usually omplicated secondarily with equinus. The heel is raised, inner dge of foot drawn upwards, and outer edge rests on the ground. n extreme cases, patient walks on dorsum of foot and outer nkle. There is contraction of muscles of calf and adductors of oot. The tendons of tibialis anticus and posticus have to be divided; and subsequently the tendo Achillis. Plaster-of-Paris plint as above directed.

3. Talipes Valgus.—The reverse of T. varus. Nearly always cquired; "flat-foot" of sickly or overworked young subjects. Outer edge of foot drawn upwards, so that patient rests on nside of instep and inner ankle. Chiefly due to yielding of the plantar arch.

Treatment. Valgus-plate or pad in boot to support arch of foot. Boot with outside leg-iron and rubber band in neglected cases. Tonics.

4. Talipes Calcaneus.—Elevation of toes with a falling of heel, so that patient walks on latter. Owing to paralysis of muscles of calf, there is no counteraction to contraction of those of anterior tibio-fibular region. Tendons of tibialis anticus, long extensors of toes, and peroneus tertius may all need section before the foot can be brought to proper position, but always try plaster-of-Paris bandage first.

Mixed or compound varieties of foregoing not uncommon. Their nature explained by the names :—Talipes equino-varus, T. equino-valgus, T. calcaneo-valgus.

The principle on which subcutaneous tenotomy is resorted to is simple. The cut surfaces of the tendons heal by connective tissue, which lengthens the tendon and admits of considerable extension while recent. In many cases a cure can be obtained without operation when treatment adopted early.—By removal of sources of irritation; fomentations and frictions of rigid muscles; tonics, good food, sea-bathing, &c.; anti-rheumatic remedies; and the proper application of plaster-of-Paris; stiffened boots, india-rubber bands, bandages, and other mechanical appliances.

COCCYGODYNIA.—From Κόκκυξ, the cuckoo, because the coccyx is said to resemble the beak of this bird; and ὀδύνη, pain. Synon. *Coccyalgia.*—Pain or tenderness about coccyx. After a fall or blow, child-birth, violent horse exercise, &c., inflammation may be set up in fibrous tissues around, and muscular attachments to the coccyx.

Symptoms. Pain on sitting down or rising from chair, on walking, on defecation, &c. Can only sit on one hip in many cases. Any movement which stretches coccygeal ligaments, or brings sacro-coccygeal articulation into play, causes suffering: sometimes this is most severe. Often aggravated by sexual intercourse, by menstrual flow. Tenderness on pressure. Occasionally an accompaniment of uterine or ovarian disease, when it is sympathetic or neuralgic. Disease very chronic. Fissure of anus sometimes mistaken for this affection.

Treatment. Removal of any uterine or ovarian disease. Improvement of general health. Nervine tonics,—Quinine, iron, arsenic, zinc. Warm hip baths. Leeches. Friction with equal parts of belladonna and mercurial liniments. Subcutaneous injection of morphia, 314. Subcutaneous division of muscles and ligaments and fasciæ connected with coccyx, so as to set the bone at rest. Complete removal of coccyx, or a portion of it.

COLIC, INTESTINAL. — From Κῶλον, the large intestine.—Characterised by severe twisting or griping pain in belly, especially about umbilicus, occurring in paroxysms. Pain generally relieved by pressure: never aggravated by it. Often, vomiting. Generally, constipation. An absence of inflammation and fever. While attack continues, pulse is lowered; surface of body cold; countenance anxious.

Attacks of colic due to:—(1) Indigestion, accompanied with flatulence. Relieved by vomiting or purging, or eructation, or expulsion of wind by anus.—See *Flatulence.* (2) The irritation of intestine by morbid secretions, accumulation of fæcal matter, &c. Cured by hot brandy and water with spice; castor oil. (3) Fright, cold, hysteria, gout: demanding antispasmodics like ether, chloroform, belladonna, opium; fomentations; perhaps colchicum and opium. (4) Mineral poisons, such as copper, lead, &c. —See *Copper Colic: Lead Colic.*

Colic not to be confounded with pain of gastrodynia or gastralgia, enteritis and cæcitis; peritonitis; perforation of el ; strangulated hernia, or ileus ; passage of biliary, or of l, calculi ; spasm of bladder ; rupture of Fallopian tube ; ine colic ; or with pain produced by aneurismal or other ours of abdomen, disease of spine, &c.

OLLOID CANCER.—See *Cancer*.

OLOUR-BLINDNESS.—Synon. *Achromatopsia; Acritochromacy; omato Pseudopsis ; Daltonism.*—The inability to discriminate veen certain colours is a defect which is quite compatible h perfect vision in other respects.

olour-blindness may exist in three forms :—(1) Inability to cern any colour, properly so called, so that black and white— light and shade, are the only variations of tint perceived. Inability to discriminate between nicer shades of more com- ite colours, as browns, greys, and neutral tints. (3) Inability listinguish between primary colours, red, blue, and yellow ; between these and secondary and tertiary colours, such as en, purple, orange, and brown (Dr. G. Wilson).

efect upon which false perception of colours is due, consists bably of some peculiar organization of retina and that part rain which is essential to vision. Unilateral colour-blindness ften found associated with hemi-anæsthesia, hysteria, or due some cerebral lesion. Generally congenital : cases known ere it has been induced by disease or injury. Quite incurable. e should be taken that railway servants are not afflicted with our-blindness, since mistakes in nature of signals might lead serious accident.

COMA.—From Κῶμα, sound sleep.—A state of stupor with loss consciousness, from which patient is roused with difficulty. *carus* (from Κάρος, heavy sleep) or *intense coma* there is not y loss of perception and volition, but usually stertorous athing, flaccid limbs, and dilated pupils : patient cannot be sed.

oma may be due to inflammation or other disease of brain, *apoplexy*, to a recent *epileptic* attack, to *uræmia* (preceded or by convulsions), to diabetes (from acetonæmia or some son intermediate between sugar and acetone), to *opium*, to *ohol*, to *injury*. Usually the diagnosis is made clear by the tory, but when coma present, and no account of mode of ess, or previous history, can be obtained, there may be a diffi- ty in attributing it to the correct cause.

Epileptic coma is temporary, and the insensibility is rarely solute, except during *status epilepticus*. Patient can be roused. spiration natural. Pulse frequent and full. Temperature rmal.

In *uræmic* coma, patient can generally be roused, except near mination. Muscular twitchings. Urinous or ammoniacal our of breath. Respiration not stertorous. Pulse different different cases. Temperature often below normal.

In *apoplectic* coma, patient roused with difficulty, or not at all. Respiration stertorous (unless patient placed on his side). Sometimes irregular. Pulse full. Face flushed or pale. Temperature above normal. Hemiplegia can generally be made out. Pupils dilated, or unequal, or in lesions of pons contracted.

In *opium poisoning* patient can at first be roused. Breathing *slow* and stertorous. Pulse weak and soft. Pupils contracted to pin points. Countenance livid. Clammy sweat. Temperature normal or lowered.

In *alcoholic* coma, insensibility often complete. No stertor. Pulse frequent. Pupils contracted, or more often dilated. Temperature two or three degrees below normal. Odour in breath.

Numerous cases of apoplexy occurring in the streets have been mistaken for examples of drunkenness. Practitioner cannot be too cautious in his diagnosis.—See *Apoplexy; Poisoning.*

COMPRESSION OF BRAIN.—From *Comprimo*, to squeeze together.—May be produced by extravasation of blood or serum; fracture of skull, with depression of bone; bony excrescence; some foreign body,—a bullet, portion of spike, &c.; by abscess and tumour of brain. Symptoms are essentially those of *Coma.*

CONCUSSION OF BRAIN.—From *Concutio*, to shake.—Signalized by collapse, fainting, sickness, stupor, insensibility, and loss of all muscular power, succeeding immediately to some act of external violence. Patient may rally quickly, or not for many hours; the prominent symptom of reaction is sleepiness, or he may die suddenly, or at end of some days. After death, no lesion may be detected (?), or a laceration of some part of brain, or disseminated ecchymoses, or a general softening of cerebral substance.

SYMPTOMS. Vary according to degree of concussion. When shock has been slight, state of unconsciousness soon recovered from; complaint only made of confusion of ideas, faintness, sickness, chilliness, drowsiness, ringing noises in ears. In more severe forms, insensibility continues longer, though rarely complete. Patient lies as if in deep sleep; pupils dilated and insensible to stimulus of light; surface pale and cold; muscles flaccid; pulse fluttering or feeble; sphincters relaxed. If the patient passes urine or fæces in bed, or has retention of urine, there is more than concussion, and probably contusion or laceration of brain; breathing often scarcely perceptible. When, after variable interval, partial recovery ensues, there is confusion of thought; inability to articulate distinctly; often, severe vomiting; sometimes, paralysis of one or other extremity. In worst cases, individual is felled to ground by the shock, and dies on the spot.

Whole nervous system now and then receives a jar by railway accidents, without immediate symptoms being developed. In

se of a few days there may be diminution of power of
ion; one or more fits of epilepsy; squinting, or impairment
ight; deafness, or troublesome noises in ears; glycosuria.
se symptoms, after a variable duration, may pass off;
sionally they are precursors of serious cerebral or spinal
ase.

REATMENT. Patient to be watched carefully. Make sure
there is no fracture or dislocation. If, on recovery from
k, there be excessive reaction, cold to head; perhaps two or
ee drops of croton oil on tongue. Where no attempt to rally
ade, a little wine or brandy and water. Warmth to surface
ody and extremities: blankets, bottles of hot water, hot
ks, &c. In after-treatment, a mild unstimulating diet; abso-
rest from all mental occupation; bodily repose and quiet;
tle bitter aperients.

ONCUSSION OF SPINAL CORD.—May arise from any
ck—as fall, jump from a height, severe blow, railway acci-
t, &c.

YMPTOMS. At first slight and obscure. Peculiar tingling,
nse of pins and needles" in extremities. Increasing weakness.
iculty in passing urine. Coldness and numbness of legs;
dually increasing difficulty in walking. Perhaps, irreme-
ble paraplegia.

REATMENT. Cases become serious from neglect. A cure
ally to be effected by perfect rest in bed until all symptoms
e passed off. Sleep to be induced by bromide of potassium
chloral. Pain relieved by hypodermic injection of morphia.
rishing food. Attention to bowels and bladder.

CONJUNCTIVITIS.—From *Conjunctiva* (*Conjungo*, to join to-
her), the membrane which lines the eyelids and covers
erior surface of eyeball; terminal *-itis*. Synon. *Ophthalmia*.
nflammation of mucous membrane of eye, a common affec-
n. Some authors divide the ophthalmiæ into several classes;
practical purposes it suffices to remember the varieties to be
sently mentioned.

During violent fits of coughing, vomiting, &c., blood some-
es extravasated beneath conjunctiva, owing to rupture of a
all vessel. Whether patch of *ecchymosis* be small, or so
undant as almost to conceal sclerotic, absorption soon takes
ce. If patient be anxious for some application, a piece of
en dipped in cold water containing a few drops of tincture
arnica, may be laid over eye.

Effusion of serum into connective tissue between conjunctiva
l sclerotic is called *chemosis*. When œdema is abundant, con-
nctiva becomes quite elevated, so that cornea looks as if it
re sunk in a deep depression. Swelling subsides as disease
ich causes pressure on conjunctival veins disappear.

1. Catarrhal Ophthalmia.—A mild form of inflammation of the conjunctiva and Meibomian follicles. Generally contagious. Most common of all eye diseases: caused by exposure to cold and wet, sudden changes of temperature, measles, and scarlet fever, &c.

SYMPTOMS. Slight pain, or sense of scalding. Spasm of the orbicularis. Glueing of the eyelids. Photophobia. Stiffness and dryness; a feeling of pricking or roughness about the eye, as if sand or broken glass were under upper eyelid. This sensation caused by rubbing of sensitive eyelids over enlarged vessels of sclerotic conjunctiva. These vessels seen to be of a bright scarlet, and irregularly arranged; can be moved by finger; Natural secretion from conjunctiva and Meibomian follicles increased in quantity; often becomes puriform.

TREATMENT. Yields readily to simple treatment; often terminates favourably; without any remedies. At outset, if there be obstinate constipation, calomel and jalap, 140, 159; or a dose or two of some milder aperient, 141. If general health be bad, stimulants or tonics, with beer or wine, and meat. Where there is plethora, continue purgatives for two or three days, while diet is restricted. Photophobia can be relieved by atropine, or cocaine (5 per cent.), used three or four times a day. In troublesome cases, a blister behind ear. Arsenic, 52. Iodide of potassium, 31. Affected eye can be rested by wearing a shade; to be bathed several times in day with warm water. Astringent applications rarely needed; occasionally, a drop or two of vinum opii, or of solution of nitrate of silver (gr. 2 to fl. oz. j), may cut short an attack. When discharge is abundant, edges of eyelids should be smeared with vaseline at night, to prevent their adhering in the morning.

2. Purulent Ophthalmia.—Three kinds:—Purulent ophthalmia of adults, or contagious ophthalmia, or Egyptian ophthalmia; gonorrhœal ophthalmia; and purulent ophthalmia of infants (Ophthalmia neonatorum).

SYMPTOMS. In *purulent ophthalmia of adults*, inflammation very intense, runs a rapid course, attended with violent pain, and leads to formation of large quantities of thick and yellow purulent matter. Eyelids swell so that they cannot be separated sufficiently to expose cornea; chemosis; discharge adheres to eyelashes in thick drops. Severe pain in eye and forehead. Generally much constitutional disturbance, fever, prostration. Where disease does not yield, inflammation increases, attacks cornea, and occasionally internal textures of eye; extensive sloughing takes place; and when sufferings terminate it is found that sight is completely lost.—It is contagious, frequently epidemic and common in hot climates. The gonococcus always found in the secretion. Military life appears to predispose to it. Both eyes often affected; sometimes simultaneously.

Gonorrhœal ophthalmia differs from the preceding in a few nts only. Thus it is the most severe; rarely limited to one , but one organ usually attacked two or three days before the er; caused by contact of gonorrhœal—or even leucorrhœal—charge with conjunctiva. Frequently ends in sloughing of nea.

Purulent ophthalmia of infants, or *ophthalmia neonatorum*, due to culation of the eyes with vaginal secretion, generally com-nces about third day after birth, with inflammation of that rt of conjunctiva lining palpebræ. Edges of eyelids adhere; separating them a drop of thick white fluid escapes. As in-mmation extends to conjunctiva covering eyeball, eyelids swell; rulent discharge increases; child becomes very feeble and tless and fretful. Disease may remain in this state for eight nine days; if not then relieved, ulceration of cornea occurs, d very destructive consequences ensue. Both eyes commonly fer; either at same time, or within an interval of a few days. scharge contagious.

TREATMENT. In purulent ophthalmia of adults, and gonor-œal ophthalmia, no need for violent measures. Result to be eaded is ulceration and sloughing. At commencement, when ngue is thickly coated, an active purgative, 140, 151. If there debility,—Ammonia and bark, 371; quinine, 379; cod liver oil. imal food. Beer or wine. To combat restlessness at night,—enbane; camphorated tincture of opium; ether; morphia and dian hemp, 317. *Locally:* Injections of solutions of alum r. 8 or 10 to water fl. oz. j), under eyelids, every hour; or lution of nitrate of silver (gr. 2 to fl. oz. j) may be employed, same way, about every eight hours. If there be ulceration of rnea, it may sometimes be checked by early application of solid trate of silver. Pain arising from application must be relieved warm narcotic fomentations, and opium. To prevent lids om adhering, smear their edges at night with diluted citrine ntment, 305. "Buller's shield," a watch glass secured by rapping, should be fixed over the healthy eye, to prevent its fection.

To cure purulent ophthalmia of infants,—Magnesia; castor l; mercury and chalk, 35. Small doses of ipecacuan and ium powder. Iodide of potassium. Examination of mother's ilk: if it be poor or deficient in quantity, a healthy wet-nurse. oat's or cow's milk. Liebig's food, 4. *Locally:*—Frequent thing of eye with tepid water: argenti nitras, gr. 2 to ℥j ery half-hour, to be dropped into the eye by nurse, and ery day or two the surgeon should apply with a brush a lution of the strength 10 to 15 grs. to the ℥j after everting the ls. When the discharge is no longer purulent, injections of solution of alum (gr. 5 to water fl. oz. j) beneath lids, every six eight hours. Or boric acid gr. 8 to ℥j. Cocaine may always used to deaden pain.

To prevent the disease—Vaginal disinfectant injections before bour when discharge present, carbolized or permanganate solutions, careful bathing of eyes of infant immediately after birth with boroglyceridæ (Barff), 1½ dr., aquæ oz. j.

3. Strumous Ophthalmia. Syn. *Phlyctenular Ophthalmia.*—A disease of scrofulous and other children, occurring generally between time of weaning and ninth or tenth year.

Symptoms. Slight conjunctival and sclerotic redness; with formation of little phlyctenulæ or pustules, sometimes of ulcers, on corneal margin. Copious lachrymal secretion; irritability of nasal and buccal mucous membranes. Great intolerance of light (*photophobia*) with spasmodic contraction of eyelids. Swelling of lips, eruptions behind ears, disordered intestinal secretions. Both eyes usually affected. Hot tears flowing over cheek often produce an eruption resembling crusta lactea.

Treatment. Good nourishing food. Milk. Beer. Warm clothing. Pure air. Occasional doses of mild laxatives. Tonics,—Quinine, arsenic, steel, &c. Cod liver oil. *Locally*:—Warm fomentations. Use of a green shade: a green or blue veil. Apply hydrarg. oxidi flavi ½ to 1 gr., vaseline 1 dr. (Pagenstecher) to edges of lids. Small seton in temples. Blisters behind ears, or to nape of neck or temples.

4. Granular Conjunctiva.—Sometimes epidemic in workhouse schools; contagious. The conjunctiva, particularly palpebral portion, is found red and uneven and granular. So-called "granulations" or "sago-grains" consist of inflamed mucous follicles and papillæ: when they cause much irritation, opacity of cornea may result. See *Corneitis.*

Sometimes an attack of purulent ophthalmia is followed by disappearance of the granulations, so it has been produced artificially by bathing the eyes three times a day for two or three days with infusion of jequirity, made by macerating 1½ dr. of the seeds in Oj of water for twenty-four hours. This answers best in chronic cases when the granulations are hard and pale. A drop of pus from a case of infantile purulent ophthalmia has the same effect. It is only in the worst cases that this treatment is justifiable.

Treatment. Quinine. Arsenic and steel, 399. Good diet. Removal of granulations by means of "Lapis Divinus"—equal parts cupri sulph., alum sulph., potas. nit., fused together and run into moulds to form sticks—or nitrate of silver gr. v to xxx to fl. oz. j, applied twice a week by the surgeon. The patient may use a weak astringent lotion, several times a day, of borax, copper sulph. or alum. Dabbing granulations gently with undiluted liquor potassæ, previously everting lids. Sulphate of copper. Hygienic measures. Prevent contagion by separating sufferers and forbidding use of towel in common.

CONSTIPATION.—From *Constipo*, to crowd thickly together. May be an idiopathic affection, or may arise during progress of any acute or chronic disease. By *habitual* costiveness is meant

prolonged departure from the standard natural to the indi-
lual. As a rule, most people have a daily evacuation; but
me only go to stool every second or third day.

SYMPTOMS. Functions of stomach, liver, and pancreas im-
fectly performed. A sense of mental and bodily oppression.
llow and pasty complexion. Foul breath. Dry skin. Scanty
ne. No stools: or only scanty motions, pale, clay-like, and
y offensive. In obstinate cases:—A loss of all power for
ertion. Headache. Palpitation. Neuralgia. Hypochon-
asis.

TREATMENT. *Temporary constipation:*—Sulphate of magnesia,
nna, and senna, 139. Sulphate and carbonate of magnesia,
11. Sulphate of soda and taraxacum, 144. Aloes, senna, and
ap, 145. Resin of podophyllum, 160. Castor oil, 164. Calomel
d jalap, 159. Rhubarb and magnesia, 165. Croton oil, 168.
ubarb and blue pill, 171. Gamboge, aloes and blue pill, 174.
nple enemata, 188. Castor oil and turpentine enema, 190.
oton oil enema, 191. Purgative electuaries, 194. *Officinal*
rgatives:—Confection of pepper; confection of scammony;
nfection of senna; confection of sulphur; compound decoc-
n of aloes. Decoction of taraxacum. Elaterium. Enema of
oes. Enema of sulphate of magnesia. Extract of Barbadoes
oes. Extract of Socotrine aloes. Compound extract of
ocynth. Extract of jalap. Purified ox bile. Calomel.
ercury and chalk. Blue pill. Infusion of rhubarb.
fusion of senna. Resin of jalap. Carbonate of magnesia.
lphate of magnesia. Scammony mixture. Croton oil. Castor
. Pill of Barbadoes aloes. Pill of aloes and assafœtida. Pill
aloes and myrrh. Pill of Socotrine aloes. Compound pill of
mboge. Compound pill of colocynth. Pill of colocynth and
oscyamus. Compound rhubarb pill. Tartrate of potash.
id tartrate of potash. Compound powders of jalap; of
ubarb; of scammony; of liquorice. Tartrate of soda and
tash. Phosphate of soda. Precipitated sulphur. Syrup of
nna. Tincture of aloes. Tincture of jalap. Tincture of rhu-
b. Tincture of senna. Mistura sennæ co. Decoct. aloes co.

Habitual Constipation:— Castor oil, 164. Ext. cascaræ
radæ liq., min. xxx or xl every night with syrup of ginger.
ubarb and magnesia, 165. Syrup of senna. Sulphate of soda,
, 144, 148. Pepsine and aloes, 155. Steel and aloes 154, 404.
rie acid, senna, and taraxacum, 147. Sulphate of magnesia
l iron, 166. Seidlitz powders, 169. Purified ox bile, 170.
cerine ʒj to be injected into the rectum. Hunyadi Janos,
binat, Friedrichshall or Carlsbad waters. Simple enemata,
. Suppositories of soap, or cocoa butter. Quinine, 379.
inine and nux vomica, 387. Zinc and nux vomica, 409,
ychnia and steel, 408. Sulphate of zinc, 177. Compound
cture of benzoin. Nux vomica, and aloes or rhubarb, 175.
ladonna. Belladonna and rhubarb pill. Valerianate of zinc
l belladonna, 410. Tar capsules or pills, 36. Cod liver oil.

Pepsine, 420. Nitro-hydrochloric acid, 378.—*Diet:*—Wholesome and digestible food. Ripe fruits in morning. Figs or prunes soaked in olive oil. Oatmeal porridge. Brown bread. Aerated bread. Tobacco. Tumblerful of spring water at bed-time or before breakfast. *General Remedies:*—Daily exercise. Avoidance of too much sleep. Sponge or shower baths. Wet compress over abdomen. Friction of abdominal walls. Galvanism. Gentle kneading of abdominal walls. Bowels to be solicited to act at a regular hour daily.—See *Intestinal Obstruction.*

CONTUSIONS OF ABDOMEN.—From *Contundo,* to bruise, to crush to pieces.—May be produced by kicks, blows, a fall upon some prominent object, or a squeeze between buffers of two railway carriages, &c. A contusion may set up inflammatory action in a limited portion of the abdominal wall, often ending in suppuration. Consequence often more serious. A blow sometimes causes death immediately, owing to syncope from shock to solar plexus of sympathetic. In other instances there may be laceration of some internal structure, with hæmorrhage; when injured individual often dies at end of a few hours, from combined effects of shock and loss of blood.—Occasionally, contusion causes rupture of an internal organ, with extravasation of contents. There may be no external symptom of injury; and yet gall-bladder, liver, spleen, stomach, intestinal canal, bladder, or pregnant uterus be torn through. Patient either dies shortly from collapse, or hæmorrhage; surviving these dangers, from peritonitis after a longer interval. Instances have occurred of laceration of liver or kidney, where sufferers having got over first effects of succeeding inflammation, have subsequently fallen victims to blood-poisoning from absorption of extravasated fluids. —See *Abscess of Abdominal Walls.*

CONVULSIONS.—From *Convello,* to overthrow, to annihilate, &c. Synon. *Eclampsia; Hyperspasmia; Spasmus.*—Convulsions consist of violent and involuntary contractions of muscles of whole body; occurring in paroxysms, and usually attended with unconsciousness. Sometimes, contractions partial, of considerable duration, and attended with hardness of affected muscles (*tonic spasms* or *spastic contractions*), *e.g.*, common cramp and tetanus. Sometimes, quickly alternating contractions and relaxations (*clonic spasm*).

Convulsions may be due to organic disease of nervous system, especially tumour of brain; to meningitis; to an insufficient supply of healthy blood to nervous centres: to reflex irritation about gums or alimentary canal (as in teething, indigestion, intestinal worms, &c.); to renal disease and albuminuria (as in uræmia and pregnancy): to a morbid state of the blood (as in hydrophobia, eruptive fevers, whooping cough, &c.); to certain poisons; as well as to strong and sudden mental emotion.

SYMPTOMS. There are premonitory symptoms, or an absence

any warning. All the voluntary muscles attacked; or there
y be only spasms of features, one half of body, or a single
b. Consciousness generally lost but not always. During a
eral paroxysm there is distortion of features, pallor or lividity
face, staring eyeballs, insensibility of pupils to light, grinding
l gnashing of teeth, protrusion of tongue, &c. Involuntary
cuations. Laborious respiration. There may be only one
ack, or several. Followed by a tendency to sleep. Seldom a
al result unless connected with severe disease. Convulsion
one limb, or one half of face, or of one half of body, not
ended with loss of consciousness, is usually indicative of
anic disease of opposite cerebral hemisphere.

REATMENT. *General remedies* :—Patient's dress to be loos-
d, especially clothing about neck. To be placed so that he
ght breathe pure and cold air. Cold to head if there be much
t and flushing. Cold affusion to head, while body is in a
m bath. Sinapisms, or hot bottles to extremities. Mustard
tbaths. Purgative and antispasmodic enemata, 190, 191.
ton oil, one or two drops on tongue. Emetics of ipecacuanha,
atient can swallow and there be evidence of gastric irritation,
, 233. Blisters, dry cupping, to nape of neck. When from
mia, venesection. Chloral. Bromide of potassium. Opium,
ere there is no cerebral disease. Hypodermic injection of
phia, 314. Belladonna and camphor, 326. Ether. Chloro-
n in draughts, and by inhalation, 313. When from tumours
rain, especially if syphilitic, iodide of potassium and per-
oride of mercury may keep off convulsions.

clampsia.—Puerperal convulsions. Purgative and antispas-
dic enemata. Inhalation of chloroform or ether. Induction
abour when patient is undelivered; convulsions often cease
oon as liquor amnii is evacuated. When convulsions occur
ing parturition, expedite delivery by forceps or turning,
ent being previously placed under influence of some anæs-
ie. Venesection if uræmic. In convulsions after delivery,
odermic injection of morphia; inhalation of chloroform,
ther. Chloral.

fantile convulsions :—Attention to diet. Cold to head, while
y is in a warm bath. One or two grains of calomel placed
ongue. Ipecacuanha emetics, if stomach be loaded. Lancing
s, where they are in fault. Magnesia or soda in dill water,
ere be acidity of secretions. Calomel and scammony, oil of
entine, liquid extract of fern root, santonin, decoction of
egranate root, if there be intestinal worms.—See *Chorea;*
epsy; Hysteria; Tetanus; Uræmia, &c.

OPPER COLIC.—Paroxysmal twisting or griping pains in the
, due to chronic poisoning by copper. Affects copper-plate
ters.

YMPTOMS. Attacks of abdominal pain, coming on suddenly;
avated by pressure. Nausea and vomiting. Constipation

may be absent. Peculiar sallow hue of complexion: countenance anxious; eyes sunken and lips livid. A purple line around gums.

Treatment. Sulphate of magnesia and sulphuric acid, 142. Sulphate of soda and sulphuric acid, 143. Castor oil, 164. Enemata of warm water. Morphia, chloroform, and Indian hemp, 317. Ether and opium, 85. Iodide of potassium, 31. Hot baths. Sinapisms. Turpentine stupes. Linseed poultices.—See *Colic*.

CORNEITIS.—From *Cornea* (*Cornu*, a horn). Synon. *Keratitis*. —The transparent and nearly circular external tunic of the eyeball, forming the anterior sixth of the globe: terminal *-itis*.

1. **Pannus.** The form of corneal inflammation associated with granular lids past or present. Vessels of some size are seen extending from the conjunctiva over the cornea, forming a network with cloudy epithelium between the meshes. The degree of morbid change differs much. For treatment, see *Granular Conjunctiva*.

2. **Acute Inflammation.**—Corneitis, or preferably Keratitis (Κέρας, a horn), renders the polished and transparent cornea hazy, dim, and rough. May cause it to look like ground glass.

Symptoms. A crescentic plexus of minute vessels can be seen passing from edge of cornea. A zone of pink vessels in adjacent sclerotic. Haziness of cornea with opacity. Abundant secretion of tears. Intolerance of light. Strumous children and subjects under twenty years of age most liable to it. One or both eyes may be affected: often one eye attacked, just as the other is getting well. Morbid action may last for months and leave cornea permanently cloudy. Occasionally ends in suppuration, and pus gets infiltrated between fibres of the membrane. Softening generally takes place posteriorly; pus makes its way into anterior chamber, to bottom of which it sinks; where it assumes a crescentic form—*hypopyon*. When an opening occurs anteriorly, a perforating ulcer of cornea is produced through which iris or retina may protrude—*staphyloma*.

Treatment. Attention to general health, particularly biliary and intestinal secretions. Rhubarb and magnesia, mercury and chalk, calomel, or castor oil. Iodide of potassium and bark, 31. Iodide of iron, 32. Cod liver oil. Chemical food, 405. Quinine. Tincture of perchloride of iron. Nourishing diet, with milk. Small blisters to temples, or behind ears. Seton in temples. Warm fomentations; steaming the eyes. Protection from light. Tincture of iodine to skin of lids. Avoidance of irritating collyria. Cocaine or atropine to be applied to conjunctiva.

3. **Syphilitic Keratitis.**—Sometimes spoken of as "chronic interstitial keratitis." The result of inherited constitutional syphilis. Affects children and young persons, especially females. Is very chronic.

SYMPTOMS. A diffused haziness beginning at centre of one nea. Tissue gets to resemble ground glass. No tendency to eration. After a few weeks both corneæ become affected. ojects of this disease have a coarse and flabby skin, and often ; on face and forehead, cicatrices of old fissures at angles of uth, sunken bridge to nose and notching of permanent upper tral incisor teeth (Hutchinson).

REATMENT. Cautious use of mercury, avoiding salivation. rosive sublimate and compound infusion of gentian. Mer- ial inunction behind ears. Iodide of potassium. Iodide of n. Ferruginous tonics. Liberal diet. Cod liver oil.

. **Opacity of Cornea.**—May result from inflammation, giving to effusion of fibrin into substance of cornea, or between it conjunctiva; or it may be the consequence of a cicatrix owing an ulcer.

When opacity is cloudy and diffused, as from keratitis, ap- rance called a *nebula*: a limited white patch, such as results n a cicatrix, is known as *albugo* and *leucoma*. Employment of tate of lead collyria, when there has been an abrasion of nea or conjunctiva, has led to formation of a permanent white osit. This may sometimes be gently scraped away.

. **Ulcers of Cornea.**—Occur in individuals of all ages where vers of life have been lowered by illness, insufficient food, mous disease, &c. May lead to perforation of cornea with ape of aqueous humour, obliteration of anterior chamber, and lapsus iridis. To be cured by attention to general health. hygienic surroundings must be attended to. Sleep must be ured. Digestion and excreting organs must be regulated, and nty of nutritious food given. When the ulcer is very indolent l use of nitrate of silver. Cocaine wafer or solution 10 per cent st be used to render the application painless. In extensive ghing ulcers a drop of eserine (gr. iv to fl. oz. j) every four rs to be inserted within the lower lid. Avoidance of irritating yria. Pagenstecher's ointment (hydrarg. oxidi flavi gr. ½ to i) to be used each night at bedtime by the nurse.

. **Conical Cornea.**—Synon. *Keratoconus.*—A rare malforma- n. Cornea found exceedingly convex, giving a peculiar rkling or brilliant appearance to eye. Both eyes usually ected, though often unequally. In consequence, vision very istinct. Causes of this deformity not known. In the few es which have been examined after death, apex of cornea has n found thinner than natural.—All kinds of treatment fruit- s. Various operations tried with only partial success. But ient's vision may sometimes be partly assisted by a deeply cave glass; or by use of a black plate with a transverse along its middle, fixed in spectacle-frame with or without ss.

. **Arcus Senilis.**—Synon. *Leucoma Gerontotoxon; Macula*

Corneæ Arcuata: Fatty Degeneration of Peripheral Portion of Cornea.—A gradually increasing opacity of circumference of cornea, owing to fatty degeneration. Generally occurs in the aged, but sometimes seen in healthy young subjects.

CORYZA.—From Κάρα, the head; ζέω, to boil. Synon. *Cold in the Head.*—Catarrhal inflammation of Schneiderian membrane of nose. Often quickly relieved by full dose of opium. Iodine vapour, 259, or cocaine 4 per cent. sprayed into nostrils.—See *Catarrh.*

COUGH. — Synon. *Tussis.* — A symptom of numerous and varied diseases of the respiratory organs and tract. For the most part is an effort to expel irritating matters from bronchi and air cells.—See *Asthma; Bronchitis; Croup; Hooping Cough; Laryngismus Stridulus; Laryngitis; Phthisis; Pleurisy; Pneumonia;* &c. May also be due to gastric derangement, to elongation of the uvula, to pharyngeal catarrh, and in some remarkable cases to irritation in the external auditory meatus.

TREATMENT. *General Remedies:* Mucilage of gum Arabic. Mucilage of tragacanth. Decotion of Iceland moss (Cetraria). Decoction of barley. Infusion of dulcamara. Infusion of linseed. Infusion of marsh-mallow. Liquorice jujubes (consisting of gum and sugar and gelatine). Ammoniac mixture, 237. Balsam of Peru with mucilage. Syrup or tincture of Tolu. Ammonia and senega, 235. Antimonial wine, 240. Ipecacuan wine, 241. Powder of ipecacuan and opium. Tincture or syrup of squills, 236, 247. Compound squill pills. Spirit of nitrous ether. Spirit of ether. Spirit of chloroform. Rectified pyroxylic spirit. Dilute hydrocyanic acid. Laurel water (aqua laurocerasi, min. v to xxx). Morphia, 315, 317, 346, 347. Opium, 213, 316, 324, 338, 345. Camphorated tincture of opium, 235, 319. Syrup of poppies. Codeia. Conium, 335. Henbane. Stramonium, 323. Aconite, 330, 332. Belladonna, 326, 344. Indian tobacco, 88, 242. Almond oil. Cod liver oil, 389. Inhalation of steam, tar vapour, medicated vapours. Spray, or atomised fluids, of weak solutions of tannic acid, perchloride of iron, sulphate of zinc, alum, opium, conium, &c., 262. *Locally to chest walls:* Mustard poultice. Turpentine stupes. Blisters. Opium, belladonna, ammoniac and mercury, chalybeate, galbanum, pitch, or warm plasters. Liniment of chloroform, or opium, or belladonna, or iodine, properly diluted. Compound liniment of camphor. Liniment of croton oil, 207. Ointment of tartarated antimony. Tartar emetic embrocation, 206.

Cough from Intestinal Irritation, &c.:—Lancing gums. Remedies against intestinal worms. Remedies against dyspepsia, gastric catarrh, constipation, &c.

Cough from Relaxed Uvula, Enlarged Tonsils, &c.:—Astringent gargles, 248, 249, 252, 257. Quinine, 379, 386. Steel, 380, 392, 395, 403. Phosphate of iron, 405. Iodide of iron, 382, 390. Iodide of ammonium. Phosphate of zinc, 414. Cod liver oil,

39. Application of nitrate of silver. Excision of tonsils. mputation of elongated uvula.

Ear-cough :—Remove irritation in the meatus auditorius.

Nervous and Hysterical Cough :—Valerian, 87. Valerianate of uinine or zinc, 93, 410, 411. Assafœtida, 89. Phosphate of nc. Nux vomica. Compound mixture of iron. Citrate of iron d quinia. Galbanum : compound pill of assafœtida. Nitrate silver to glottis. Attention to uterine functions. Horse ercise. Sea bathing. Shower baths. Nourishing food.

COW-POX.—Synon. *Vaccinia.*—The comparative immunity gainst small-pox, conferred by vaccination, was discovered by enner towards close of eighteenth century.

When vaccination has been successfully performed on a ealthy child, an elevation may be felt over puncture on second ay, accompanied by slight redness; on fifth, a distinct vesicle formed, having an elevated edge and depressed centre; on ghth, it is of a pearl colour, and is distended with a clear mph. An inflamed areola now forms round base of little mour, and increases during two succeeding days; about eleventh ay it fades; and the vesicle, which has then burst and acquired brown colour, gradually dries up, until by end of second week has become converted into a hard and round scab. This lls off about twenty-first day, leaving a circular, depressed, riated cicatrix, which is permanent. In after-life first vaccination affords protection for ten years, perhaps for longer; a safe roceeding to revaccinate after this lapse of time.

Four or five separate, good-sized vesicles should be produced.—When variola occurs after vaccination, it is known as *varioloid*, r *modified* small-pox.

Treatment. The vesicles should be protected, and carbolised il may be applied to allay itching. On the eighth day, if the esicles are distended, they may be punctured. If there should e retained pus, or ulceration beneath the scabs, they may be oulticed. If there is extensive erythema, or erysipelas occur, he arm should be kept in a sling and lotio plumbi applied.

CRAMP.—Synon. *Myospasmus; Spasmus Muscularis; Tetanus Dolorificus.*—A spasmodic and involuntary contraction of one or more muscles, of short duration, attended with rigidity and reat pain: most common in muscles of lower extremities, specially the gastrocnemius, or one of the plantar muscles; but muscular fibres of internal organs—as of stomach, intestines, bladder, uterus, pharynx, &c.—not infrequently affected.

May arise from disease in nervous centres: feeble circulation: morbid state of blood,—gout, rheumatism, anæmia, &c.; dyspepsia, colic, cholera, pregnancy, tetanus, &c.; sometimes cannot be traced to derangement of any organ. Said to be a frequent cause of drowning, even where the bather is an accomplished swimmer, but probably the cause of death in these cases is ailure of heart.

SYMPTOMS. Fibres of affected muscle are gathered into a hard knob; appreciable to touch, and often to vision. Pain most severe. Spasm may cease in a few seconds, or not for hours: it commonly leaves more or less tenderness, which remains for some hours. The same muscle may be affected over and over again: or the contractions may shift from one part to another. Cramp from dyspepsia often occurs at night; rousing the victim suddenly from sleep.

TREATMENT. *Prophylactic:*—Removal of all sources of indigestion. Correction of debility, anæmia, constipation, gouty or rheumatic state of system. Attention to condition of nerve centres. Bitter tonics. Chalybeates. Antispasmodics. Pepsine. Quinine, especially if attacks intermit. Sulphur. Tar water. Tepid sponge baths. Warmth to the feet at night; legs supported on soft cushion or pillow. Sleeping on a mattress, so inclined that the foot of the bed is twelve inches lower than the head.

Curative:—Friction with naked hand, flesh-brush, or flannel. Anodyne liniments—especially such as contain aconite, belladonna, chloroform, camphor. Forcible extension of limb. Hot bath. Inhalation of ether or chloroform. Full doses of carbonate of magnesia or soda, with ether and tincture of cardamoms.

CRETINISM.—Perhaps, according to Dr. Mayne, from *Cretira*, old Italian for a poor creature. Synon. *Idiotismus Endemicus; Fatuitas Alpicolarum; Micrencephalon.*—A form of idiocy, accompanied by deformity of the bodily organs. Has a close but ill-understood connection with goitre. In English Cretins thyroid has been absent, and glandular masses seen on each side of neck (Myxœdema).

SYMPTOMS. Diminutive stature. Large head, flattened at top, and spread out laterally. Countenance vacant and void of intelligence. Mouth gaping and slavering. Tongue protruding. Goitre. Disgusting habits. Perhaps squinting, deaf-mutism, blindness.

TREATMENT. Pure mountain air. Plenty of exercise. Simple nourishing food, with milk. Cod liver oil. Carbonate of iron. Phosphate of lime. Chemical food. Valerianate of zinc. Moral control. Judicious mental training.

CROUP. — Synon. *Tracheitis; Cynanche Trachealis; Angina Trachealis; Membranous Laryngitis.*—An inflammatory disease of mucous lining of trachea, or often of glottis and larynx and trachea. Fever and inflammation accompanied by exudation of false membranes on affected surfaces. A question much debated is whether membranous croup is not always diphtheritic. There is no doubt an acute catarrhal inflammation as well as inflammation attended with formation of membranes, and the two are not easily distinguishable one from the other.—Most common uring second and third years of childhood. Often complicated th bronchitis or pneumonia. May end fatally from exustion, suffocation, convulsions, or thrombosis. Mortality very rge.

SYMPTOMS. In early stage those of catarrh. Slight fever; ugh; hoarseness; drowsiness; suffusion of eyes, and running nose. In course of eighteen hours, wheezing respiration; fits hoarse coughing; occasional spasms of laryngeal muscles. uen, characteristic symptoms: alteration in cough, which is tended with a peculiar ringing sound, rendering it "brassy." spirations prolonged; accompanied with crowing or piping ise. Redness and swelling of tonsils and uvula, less marked an in tonsillitis. Increased fever. Breathing becomes more d more hurried and impeded. Cough frequent. Depression ith weakness and irregularity of pulse. Thirst. Irritability and stlessness. Features expressive of alarm and distress: patient asps at his neck, or thrusts his fingers into mouth, as if to move cause of suffering. Nocturnal exacerbations: remissions wards morning.—As disease subsides, cough loses peculiar ang, becomes moist: crowing inspirations lessen, or cease.—hen tending to death, drowsiness gets extreme, though sleep uneasy; child starts and wakes in terror. Breathing becomes sping and interrupted; suffocation seems imminent. Countenance livid. Skin cold; covered with clammy sweat. Perhaps eath directly after an inspiration; asphyxia, coma, convulsions, fatal dyspnœa from thrombosis.

TREATMENT. Under use of bleeding, tartarated antimony, d mercury, half the cases attacked die. For this cause alone different plan ought to be tried. Blisters most injurious.

Confinement to bed. Flannel clothing. Temperature of room ° F.; air to be moistened with steam. Continuous fomentaons to throat; sponges dipped in water as hot as can be borne. metic of ipecacuan, 231. Calomel as a purgative, or castor oil, there be constipation. Lessen excessive heat of skin by warm th, 137. If skin be dry, wrap patient in a blanket wrung out warm water, and cover all with two or three dry blankets, 6. Painting of throat with belladonna,—diluted extract, liniment, or tincture—if distress arise chiefly from spasmodic ntractions of laryngeal muscles. Iodide of potassium with safœtida and senega, 31. Ammonia and senega, 235. Quinine. halation of spray of hot water, or saline solutions, or hot ccharated solution of lime, 262. Inhalation of oxygen gas. eef tea. Lime water and milk. Cream. Wine, or brandy.—racheotomy, if predominant symptoms are those of asphyxia: halation of chloroform, so that operation may be performed eliberately and cautiously. After operation, trust to warm oist air, nourishment, and stimulants: abandon medicines.

Spurious Croup, see *Laryngismus Stridulus*.

CYANOSIS.—From Κύανος, blue; νόσος, disease. Synon. *Hæma-*

tocyanosis ; Morbus Cæruleus ; Blue Disease.—A condition characterised by a blue or purplish discoloration of skin ; arising generally in connection with some deficiency in construction of the heart.

Chief Malformations :—Permanence of foramen ovale, allowing a passage of blood between the auricles. Abnormal apertures in some part of septum of auricles or ventricles. Origin of aorta and pulmonary artery from a single ventricle. Transposition of origins of large vessels from heart ; aorta arising from right, and pulmonary artery from left, ventricle. An extreme contraction of pulmonary artery. Continued patescence of ductus arteriosus, permitting a mixture of blood of aorta and pulmonary artery.

SYMPTOMS. Discoloration of skin. Coldness of body. Palpitation. Fits of dyspnœa. Syncope on excitement. Tips of fingers and toes become bulbous ; nails incurvated. Generative organs often imperfectly developed. Congestion of internal organs, and dropsical effusions.—Infants affected generally die very early ; occasionally, life prolonged to adult age. Males more prone to cyanosis than females. Under exceptional circumstances it may not come on until somewhat late in life.

TREATMENT. Must be simply palliative. Nourishing food. Occasionally, mild tonics. Warm clothing. Avoidance of fatigue or mental excitement. Residence in pure mild air.

CYNANCHE LARYNGEA.—From Κύων, a dog ; ἄγχω, to strangle, —because dogs were supposed to be especially liable to sore throat. Λάρυγξ, the windpipe. Synon. *Angina Laryngea ; Inflammation of the Larynx.*—See *Laryngitis.*

CYNANCHE PAROTIDEA.—From πάρα, near ; οὖς, the ear. Synon. *Parotitis Contagiosa ; Angina Externa ; Parotiditis ; Branks ; Inflammation of the Parotid Gland.*—See *Mumps.*

CYNANCHE TONSILLARIS.—From *Tonsilla*, the tonsil. Synon. *Amygdalitis ; Angina Tonsillaris ; Inflammatory Sore Throat ; Quinsy.*—See *Tonsillitis.*

CYNANCHE TRACHEALIS.—From *Trachea*, the trachea. Synon. *Suffocatio Stridula ; Angina Membranacea ; Laryngotracheitis ; Inflammation of the Trachea.*—See *Croup.*

DEAFNESS.—Synon. *Cophosis ; Surditas ; Hardness of Hearing.*—May be the result of rheumatism, gout, hereditary syphilis, disease of the membrana tympani, disease of the ossicula auditus, obstruction of the Eustachian tube, or some diminution of nervous force.—See also *Otorrhœa ; Otitis ; Eustachian Tube.*

1. **Rheumatism of Ear.**—Most frequently occurs after subsidence of rheumatic inflammation of joints.

SYMPTOMS. Tenderness of scalp, temple, mastoid process, jaw, and teeth on affected side. Distressing tinnitus. Nightly xacerbations, with acid perspirations. An acute attack may rove most destructive by producing periosteal inflammation and aries. Sometimes obstinate otorrhœa results; may lead to exfo-ation of a portion of bone.

TREATMENT. Alkaline salts. Iodide of potassium. Opium. ot bathing. Fomentations. When great tenderness exists ver mastoid process, much relief may be given by an incision ver this part down to the bone, so as to free tense inflamed eriosteum.

2. **Gout of Ear.**—A common cause of deafness. Usually chronic nd not marked by severe symptoms, but ossicula gradually lose heir mobility. Ear seldom attacked until small joints have been requently invaded. Deafness generally preceded by severe eadache.

SYMPTOMS.—Acute gout affecting *external* ear often sets in oon after midnight. Tearing or twisting pain; burning heat; eating noises or singing in ear; swelling with redness.—Minute rticulations of bones in the *middle* ear may suffer. Pain very cute. Sometimes loss of consciousness, delirium, or convulsions. Concretions and deposits of urate of soda found after death (Harvey).

TREATMENT. Same as for gout in other parts of body. Purging with neutral salts. Alkalies. Colchicum. Fomentations. When apparently due to metastasis, mustard pediluvia, or other local stimulants, to recall disease to less important joints.

3. **Syphilitic Deafness.**—Usually met with in congenital syphilis associating with keratitis, notched teeth, &c. Comes on gradually in early life, and may become extreme. It is generally irremediable. Slight deafness may be among the early secondary symptoms of the acquired disease.

4. **Nervous Deafness.**—More or less deafness owing to some lesion of nervous system; whether the mischief have its seat in nervous tissue expanded in labyrinth, at origin or in course of seventh pair, or in brain itself. Singing noises and deafness sometimes due to decayed teeth. In some cases no relief can be given; as in senile deafness, arising from insensibility of nervous tissue due to old age. Ear-trumpets, or other apparatus useful.

5. **Disease of Naso-Pharynx.**—Enlarged tonsils and adenoid vegetations, which narrow the posterior nares and press on the pharyngeal openings of the Eustachian tubes, a fruitful source of deafness in children. Most satisfactory results from removal of adenoid excrescences and tonsils.—See *Eustachian Tube.*

DEATH CAUSES.—Life can only be maintained by the circulation of arterial blood. If no blood circulates through arteries of nerve centres or only venous blood, the result is death. Death by cessation of circulation of blood may be of two kinds.

(1) Death by *anæmia* ('A, priv.; αἷμα, blood), in which there is a want of due supply of blood to heart. The anæmia may be due to loss of blood or to its impoverishment and diminution by disease. Death by *asthenia* ('A, priv.; σθένος, strength), where there is a failure in contractile power of heart. This may arise from disease of the cardiac walls or valves; or from arrest of the heart's action through the nervous system, as in apoplexy; disease of medulla oblongata, shock, &c., or by certain poisons. When, either from anæmia or asthenia, the death is sudden it is said to be due to *syncope* (Συγκόπτω, to be affected with sudden prostration of strength). Sometimes life fails partly from anæmia and partly from asthenia; as in cases of starvation, phthisis, dysentery, &c.

Death by circulation of venous blood may happen in one or two ways:—(1) By *apnœa* ('A, priv.; πνέω, to breathe), *asphyxia*, or *suffocation*, where access of air to lungs is stopped; as in drowning, strangulation, many laryngeal and lung diseases, tetanus, section of phrenic and intercostal nerves, &c. (2) By *coma* (Κῶμα, deep sleep), in which muscular movements required for respiration cease, owing to insensibility produced by cerebral disease.—In apnœa there are successively impeded respiration, circulation of venous blood, and insensibility. In coma the order is reversed,—insensibility, cessation of thoracic movements, and stoppage of chemical functions of lungs.

DELIRIUM TREMENS.—From *Deliro*, to be crazy: *Tremo*, to tremble. Synon. *Delirium Ebrositatis; Mania a Potu; Delirium Vigilans.* — Delirium characterised by hallucinations, fear, trembling of muscles of extremities, weakness, and watchfulness. Natural tendency of the disorder to terminate in a critical sleep, at end of from forty-eight to seventy-two hours from commencement of delirium.

The chief cause of delirium tremens is alcoholism, and especially spirit drinking: it may be induced in a drinker by injury, or by some acute disease, as pneumonia, and under these circumstances it is very fatal. It is rare in women, even when addicted to alcoholism.

SYMPTOMS. Sleeplessness. A busy, but not violent delirium: aggravated towards night. Constant talking or muttering. Hallucinations of sight and hearing. A dread or suspicion of every one; a belief that strangers are under the bed, or listening at door. A generally excited and eager manner. Mental and bodily prostration. Tremulous motion of hands; constant twitching of facial muscles. Loss of appetite. Nausea. Constipation. Pallor and moisture of skin; frequent weak pulse. Urine high coloured, scanty, and of high specific gravity.

In *favourable* cases, critical sleep, lasting twelve or more hours; from which patient wakes cured though weak. In *fatal* examples, watchfulness continues; muttering delirium, subsultus tendinum, and exhaustion; great prostration, coma or onvulsions or fatal syncope; syncope sometimes induced by struggles. Death usually between third and seventh days.

TREATMENT. Critical sleep to be brought about as soon as possible. Ice to cool irritable stomach. Salines, 348, 349, 356. Frequent small quantities of milk, raw eggs, beef tea, peptonized if possible. Chloral gr. 20 every six hours. Subcutaneous injection of morphia, 314. Tincture of digitalis, in half-ounce doses, once or twice repeated. If exhaustion great, give ammonia or ether in preference to alcohol. Patient to be restrained by one or two good attendants. Apartment to be kept quiet and dark. All sources of mental irritation to be removed. Cold affusion, or cold shower bath, sometimes very useful.

Avoidance of stimulation, and opium, unless there is great prostration. Use of strait-waistcoat very rarely advisable, as it increases irritation.—See *Dipsomania*.

DENGUE.—Synon. *Scarlatina Rheumatica; Eruptive Epidemic Fever; Eruptive Rheumatic Fever; Dandy Fever; Break-bone Fever.*—In certain parts of East Indies, Southern States of America as well as in Philadelphia and New York, occasional extraordinary epidemics of a peculiar infectious fever, in which an eruption like that of scarlatina often occurs with severe rheumatic pains in limbs and joints. Sometimes throat is implicated; occasionally testicles enlarge; often, lymphatic glands of neck and groin swell. Pains about shoulders and arms, loins and hips, thighs and legs; great soreness of muscles and bones; headache and flushing of face; rapid pulse and coated tongue; nausea and vomiting; prostration. The disease generally lasts about eight days, but rheumatic pains last for a long time. Demands the use of antipyrin or salicylic acid with liq. am. acetatis, aperients, salines, colchicum with opium, and bark or quinine.

DIABETES INSIPIDUS.—A condition in which an excessive quantity of pale limpid urine is secreted, free from sugar or other abnormal ingredients. Rare. Usually seen in young adults; may follow blows on head, or occur in cerebral tumour or feverish variety of sunstroke.

SYMPTOMS. Insatiable thirst (polydipsia), with excretion of large quantities of urine (15 to over 20 pints). Watery constituents alone increased; total amount of urinary solids not greater than in health; in some cases, however, the urea has been above the average. General health usually suffers; annoying thirst and frequent micturition cause bad nights. Sometimes dropsy sets in. When not due to injury or tumour, course very chronic; patient liable to pneumonia and other diseases caused by debility.

TREATMENT. Valerianate of zinc. Tincture of perchloride of iron, 101. Phosphoric acid and nux vomica, 376. Iron alum, 116. Gallic acid, 103. Ergot. Opium. Warm baths.

Cod liver oil. Enforced abstinence from fluids useless. Galvanism.

Remedies sometimes employed:—Mineral acids. Tannic acid. Oxide of zinc. Iodide of potassium. Green iodide of mercury. Assafœtida. Camphor. Nitrate of potash.

DIABETES MELLITUS.—From Διά, through; *βαίνω*, to move; Μέλι, honey. Synon. *Melituria; Paruria Mellita; Glucosuria; Glucohæmia; Saccharine Diabetes.*—A complicated chronic disease, due to inefficient performance of some important function. Characterised by secretion of a large quantity of urine containing glucose or grape sugar, which varies from a mere trace up to 40 grains per ounce of urine, about 10 grains per ounce most usual.

Urine may contain *β*—oxybutyric acid, aceto-acetic acid, or acetone, which give a rich claret-coloured reaction with solution of perchloride of iron.

Symptoms. Come on insidiously. Muscular weakness. Malaise; sense of feverishness. Excretion of large quantities of urine, having a faint apple-like odour, and a high spec. grav., sometimes 1035—1050. Dryness and harshness of skin. Constipation; hard dry fæces. Constant thirst. Failure of general health; loss of sexual power. Pain about loins. Coldness of extremities, with sense of burning in hands and feet. Increasing debility, diminution in weight, shrinking of frame, œdema of legs, and sometimes albuminuria. Chloroform-like smell of breath. Sponginess of gums, with decay of teeth. Mental depression and irritability. Constant sense of sinking at stomach, with voracious appetite. Tendency to double cataract; to boils.—Often becomes associated with phthisis after a time. In confirmed cases death from some intercurrent low form of inflammation—bronchitis, pleurisy, pneumonia, or peritonitis; from coma which may supervene gradually or suddenly, and may or may not be accompanied with acetone odour in breath (acetonœmia); from gangrene of legs; phthisis; or from gradual exhaustion.

Sugar to be detected in urine by potash, copper, picric acid, or fermentation tests.

Treatment. *Diet:*—To be nutritious, yet free from saccharine and amylaceous materials. Meat, poultry, game, ham or bacon, fish, eggs. Weak beef tea, mutton broth. Milk, or preferably cream. Neufchatel, Stilton, or cream cheese. Butter. Greens, green leaves of lettuce, onions, shallot, mushroom, cucumber, vinegar, oil, pickles, spinach, watercresses. Bran loaf, 9. Almond rusks and biscuits. Gluten bread. Cocoa-nut, almond or bran biscuits. Stale well-fermented bread thoroughly toasted. Skim milk. Koumiss. Spring water, iced water, soda water, Vichy water, Vals, Apollinaris, Seltzer, Royat, or potass water, chocolate, cocoa nibs. Tea sweetened with glycerine or saccharin. Dry sherry; Bordeaux wine; dry Hungarian wines;

urgundy; weak brandy and water; whisky and water.—*rbid* :—Sugar. Pastry. Fruit. Confectionery. Potatoes. rrots. Parsnips. Beetroot. Turnips. Radishes. Maccaroni. ce, sago, tapioca, arrowroot. Liver. Oysters, lobsters, crabs, ussels. Beer; raw spirits; liqueurs. Coffee.

Drugs :—Opium (½ gr. to 1 gr. or more two or three times a y). Codeia. Morphia. Antipyrin. Salicylic acid. Benzoic id or benzoate of ammonia. Opium, ipecacuan, and nitre, 4. Alkaline carbonates. Citrate of ammonia or potash, th steel, 403. Reduced iron, aloes, and nux vomica, 404. rychnine (gr. $\frac{1}{24}$). Quinine and opium, 41. Cod liver oil; suet boiled in milk. Phosphorus (gr. $\frac{1}{30}$). Pepsine, 420. astor oil; Seidlitz powders; rhubarb and magnesia; aperient emata. Diabetic eczema or pruritus is relieved by the application of borax ointment.

General remedies : — Warm clothing; flannel or chamois ather next the skin of trunk and extremities. Hot water or pour baths. Turkish bath, 130. Mineral springs of Vichy, arlsbad.

DIARRHŒA.—From Διαρρέω, to flow through. Synon. *Cop- rrhœa; Catarrhus Intestinalis; Summer or Bilious Diarrhœa; nglish Cholera; Purging.*—A relaxed state of bowels—*i.e.*, the equent evacuation of loose or liquid stools.

SYMPTOMS. Purging. Nausea. Furred tongue. Foul breath. atulence and griping pains. Acid eructations. Tenesmus. ools unhealthy; consist either of liquid fæces, or a watery eculent mucus, or thin frothy serum, or of pale yeast-like atter. In severe summer or English cholera, evacuations often nsist chiefly of bile; violent abdominal pains, cramps in legs, illiness, and depression.

TREATMENT. *Expulsion of offending matter from intestinal nal* :—Castor oil, 164. Castor oil and opium, 114, 164. Tincture rhubarb. Compound powder of rhubarb. Blue pill and ubarb, 171. Warm water enema. Calomel.

Subsequently, or at first when cause has been removed by sponta- ous purging :—Ether and opium, 85. Chloroform, morphia, and dian hemp, 317. Chalk mixture, with catechu and opium, 97. hatany, 96. Matico and rhatany, 105. Aromatic sulphuric acid nd opium, 100. Liquid extract of bael, 58, 97. Kino and log- ood, 108. Compound powder of catechu. Aromatic powder of halk and opium. Powder of kino and opium. Powder of ecacuan and opium. White bismuth, 65, 112. Astringent nemata, 113. Salicylic acid, hydrarg. perchloridi, creasote, r carbolic acid may be given when the motions are frothy, rmented and offensive. Enema of opium. Morphia suppo- itory. Vegetable charcoal, 98.—Diet. Food should be taken n small quantity, and tepid or cold: farinaceous food being he best. Chicken or mutton broth better than beef tea, which hould be weak. Mucilaginous drinks, rice or barley water, milk and lime water, brandy. In diarrhœa of young children, milk sometimes must be given up entirely, or wet nurse, goat, or ass substituted for the cow. No solid food. Milk boiled, or not. Mucilaginous drinks. Mucilage of gum Arabic. Tapioca, sago, or milk arrowroot. Saccharated solution of lime and milk, 14. Milk and soda water or lime water. Weak broths. Later, custard or rice puddings. White fish. Pepsine, 420. Port wine. Brandy and cold water. Ice. Linseed poultices. Turpentine stupes. Wearing a flannel belt or bandage round abdomen. Avoidance of damp and cold.

Remedies sometimes used :—Nitrate of silver. Chloride of silver. Sulphate of copper. Ammonio-sulphate of copper. Tannate of bismuth. Alum. Cinnamon. Oxide of zinc. Iron-alum. Tincture of perchloride of iron. Acetate of lead. Ergot of rye. Dilute sulphuric acid. Blisters. Ice to spine, &c.

Infantile diarrhœa :—Often attended with great danger. In early stage, castor oil, or calomel, or grey powder with rhubarb and soda, to remove offending matters. Later, minute doses of laudanum with dill water or bismuth.

No milk or other food to be given for twelve or twenty-four hours, but water, toast water, sweetened barley water, or rice water. This alone often sufficient with warmth. Later whey, raw meat juice (2), or whites of four eggs in a pint of iced water with soda bicarb. ʒj.

DIPHTHERIA.—From Διφθέρα, a skin or membrane. Synon. *Angina Maligna; Cynanche Membranacea; Putrid Sore Throat; Malignant Quinsy.*—An epidemic and contagious sore throat of great severity, due to toxæmia ; attended with much prostration, and characterized by exudation of false membranes on tonsils and adjacent structures.—When followed by recovery ; it often leaves an altered state of voice, and may be followed by partial paralysis of muscles of deglutition, weakness of extremities, impaired vision, and other secondary nerve affections.—Children more obnoxious to this specific blood disease than adults. Most common amongst poor, or such as reside in damp situations and badly drained houses. It may be conveyed in atmosphere, by clothes, milk, water, &c.

SYMPTOMS. May commence gradually with feelings of depression and muscular debility, headache, nausea, slight diarrhœa, chilliness, drowsiness, and sense of stiffness about neck ; or sometimes with high fever, quick pulse, flushed face, and hot skin. Then, tonsils get inflamed and swollen ; swelling and tenderness of glands about angles of lower jaw. Inflammatory action spreads to velum, uvula, posterior part of pharynx. Perhaps difficult deglutition. The characteristic feature is effusion of a plastic fibrinous material. This may first appear in nasal fossæ, or on soft palate, on one tonsil, or on back of pharynx, most frequently on tonsils, from which it spreads to pillows of fauces, soft palate, &c. Exudation looks like ashloured specks; which, enlarging and coalescing, form large tches resembling damp dirty wash-leather. As disease spreads, lse membrane increases in thickness and extent: firmly tached to mucous membrane beneath: if forcibly removed ucous membrane seems to be abraded and bleeding, but not erated; a new patch soon forms: may spread to cheek and ms, œsophagus, or through glottis into larynx and trachea. hen membrane begins to separate and decompose, horribly tid breath; when thrown off, there may be left ulceration, ughing, or gangrene; or tissues gradually assume a healthy pearance. True diphtheritic membranes sometimes form on raded cutaneous surface, conjunctiva, mucous coat of vagina, rectum, &c.

Unless initial fever high, constitutional symptoms may be ght at first, and sometimes the throat is discovered to be coated th false membrane before any illness is obvious. Soon, pros-ation and restlessness. Temperature often low. Pulse increases rapidity. Saliva often dribbles away. Breath fœtid. Disin-nation for exertion or food. Dysphagia often absent. Attacks hæmorrhage occasionally from nose, fauces, or bronchi. buminuria present in most cases from early period. Some-nes purpura.—Death from exhaustion, hæmorrhage, septicæmia, emia, gangrene, or asphyxia,—consciousness remaining till se. Sometimes, fatal event due to thrombosis.—In event of covery, convalescence tardy. Anæmia. Secondary nerve ections: paralysis, neuralgia, defective vision.

TREATMENT. No specific known. By remedies of a support-g nature, patient may be often guided through the great nger, which is present in every case.

Locally:—External applications—leeches, blisters, poultices, mentation to throat, useless or injurious. At commence-nt, inhalation of acid vapour—three ounces of vinegar to pint boiling water;—hot-water spray. When pellicle has formed, ay of hot atomised lime water, 262, or solution of borax or osphate of soda; sulphurous acid spray. Iodine inhalation,). Painting, with carbolate of glycerine or tincture of per-oride of iron and glycerine; turpentine; sulphur and cerine; strong solution of nitrate of silver; solution of chlo-ated soda. Hydrochloric acid gargle, 248. Borax gargle,). Chlorinated soda gargle, 254. Creasote gargle, 255. Gargle hot saccharated solution of lime. *Avoidance* of solid nitrate silver, nitric acid, hydrochloric acid, and other caustics. aring away of exudation, injurious.

General remedies:—In early stage, emetic of ipecacuan and monia, 233. Cream of tartar drink, 356. Chlorate of potash nk, 360. If there be depression, or both, or albuminuria, nmence with tincture of perchloride of iron, 392. Chlorate of ash, 61. Quinine and iron, 380. If thrombosis be feared, monia and bark, 371. Iodide of potassium, 31. Soda phocarbolate. Sulphurous acid. Sulphite of soda, or magnesia, 48. Opium. Essence of beef, 3. Pounded raw beef. Eggs, cream, and beef tea, 5. Lime water and milk, 14. Brandy and eggs, 17. Brandy. Port wine. Champagne. Milk, or cream. Ice, to suck very freely.

Patient to be kept in bed, from commencement; flannel clothing often advantageous. Air of room to be pure and warm (70° F.); to be kept moist by evaporation of boiling water, Sinapisms to epigastrium, if there be sickness. Simple enemata, or castor oil, if there be constipation. Linseed poultices to loins, or hot fomentations, if suppression of urine come on. Chloroform inhalation, where attacks of dyspnœa are paroxysmal. Tracheotomy or laryngotomy, when exudation obstructs larynx, as indicated by lividity, cold extremities, and sinking in on inspiration of lower end of sternum. When swallowing is prevented, nutrient enemata, 21, 22, 23.—*Directly convalescence is firmly established*:—Sea air. Very generous diet. Cod liver oil. Quinine and steel. Strychnine, or nux vomica. Faradization if paralysis supervene.

In diphtheritic paralysis it may be necessary to feed through a nasal tube or by the bowel.

DIPLOPIA.—From Διπλόος, double; ὄπτομαι, to see. Synon. *Ambiopia; Dittopsia; Double Vision.*—Arises from some derangement in the visual axes by paralysis or spasm of muscles of one eyeball, or some irregularity in density or curvature of dioptric media, or some disease of retina or optic nerve.

DIPSOMANIA.—From Δίψα, thirst; μανία, madness.—An intense craving for intoxicating liquors; attended with a protracted state of general depression and restlessness. An unphilosophical and dangerous view to regard a dipsomaniac as in every case an irresponsible being. Hard drinking a degrading vice: difficult to discontinue, the more it is indulged in.

Excessive use of alcoholic stimuli leads to:—Induration of portions of nervous centres. Congestions of respiratory organs. Cirrhosis or gin-drinker's liver. Chronic inflammation, and thickening of walls of stomach, Disease of substance of heart, and of kidneys. Dropsy. Tuberculosis.

TREATMENT. Total abstinence from intoxicating drinks. Henbane, hop, bromide of potassium, chloral, or small doses of opium, to avoid sleepless nights. Bark and mineral acids, 376. Quinine, 379. Strychnine. Quinine and nux vomica, 387. Phosphate of iron, 405. Phosphate of zinc, 414. Oxide of zinc, 415. Hypophosphite of soda or lime, 419. Pepsine, 420. Nourishing food. Milk. Fruit syrups in soda water. Restraint with the regulated life of a suitable establishment. In almost hopeless cases it may be justifiable to substitute opium for alcohol. Opium-eating much less injurious than alcohol to general health; while the subject of it is not an intolerable nuisance like the drunkard. —See *Delirium Tremens*.

DROPSY.—Formerly correctly called *hydropsy*, from Ὕδωρ, ater, and ὄψις, an appearance. An accumulation of watery or rous liquid in some one or more of the natural serous cavities the body, or in the meshes of the areolar tissue, or in both, ten occurring independently of inflammation.

May be due (1) to obstruction to venous return causing over-stension of the veins and their capillaries, which may arise om many different conditions. The most common are:—alvular or other disease of heart. Retarded circulation with creased fulness of veins, in pulmonary emphysema, bronchitis, c. Structural disease of liver, impeding return of blood through e portal system of veins, and causing ascites. Pressure on ins by tumours, enlarged glands, gravid uterus, &c. (2) To dney disease giving rise to imperfect elimination of urea and ater, which therefore accumulate in the blood; and (3) Anæmic watery blood.—See *Anasarca; Ascites; Hydrocephalus; Hydro-orax; Hydropericardium; Hydrocele*, &c. (4) Inflammatory yperæmia, as is seen in pleuritic effusion, strumous ascites, ydrocele, &c.

TREATMENT.—Remove or relieve diseased condition of which opsy is a symptom. To carry off fluid :—Purgatives. Diuretics. iaphoretics. Emetics. Alteratives. Tonics. Tapping. Inci-ons or acupunctures. Southey's tubes.

Purgatives :—Calomel, 159. Jalap, 140, 159. Compound jalap owder. Compound scammony powder. Compound pill of gam-oge. Elaterium, 157. Croton oil, 168. Black hellebore. To-acco. Oil of turpentine, 190. Acid tartrate of potash, 228. hubarb. Colocynth. Resin of podophyllum.

Diuretics :—Acetate of potash, 219. Nitrate of potash, 212. igitalis, 219. Squills, 219. Copaiba, or its resin, 220. Buchu, 22. Senega, 214. Compound spirit of horseradish. Spirit of trous ether. Tincture of cantharides. Oil of spirit of juniper, 21, 229. Infusion of uva ursi. Benzoate of ammonia and digi-lis, 221. Liquor potassæ. Fomentations to loins. Cupping or eeches to loins. Dry cupping over the kidneys.

Diaphoretics :—Tartarated antimony, 210, 213. Antimonial owder. Jaborandi (especially when due to kidney mischief). pium. Powder of ipecacuan and opium. Elder-flower water. uaiacum, 43. Hot water baths, 119. Hot air or vapour baths, 30. Wet sheet packing, 135.

Emetics :—Ipecacuanha, 231, 233. Sulphate of zinc, 232. ustard.

Alteratives :—Corrosive sublimate, 27. Compound pill of ca-mel. Mercury and chalk. Blue pill. Colchicum, 46. Liquor senicalis, 52. Chlorate of potash, 61. Iodide of potassium, 31.

Tonics :—Nitric acid, 147. Nitro-hydrochloric acid, 378. Tinc-ure of perchloride of iron. Citrate of iron and ammonia. Citrate f iron and quinia. Iodide of iron, 32. Tartarated iron. Cod ver oil.

DROWNING.—For the restoration of the asphyxiated from submersion, see *Suspended Animation.*

DUODENAL DISEASES.—From *duodeni*, twelve ; because this portion of bowel was said by the ancients to be as long as the breadth of twelve fingers.—Great difficulty in diagnosing diseased conditions of duodenum from those of small intestines generally.

1. Duodenal Dyspepsia.—Either the result of chronic or subacute inflammation, or simply of impaired function.

SYMPTOMS. Pain about duodenum some three hours after food has been taken. Nausea. Attacks of faintness. Occasionally jaundice ; especially when the disease is caused by abuse of alcoholic drinks.

TREATMENT. Bismuth. Mercury and chalk with opium, 34. Rhubarb and blue pill, 171. Nitric acid, senna, and taraxacum, 147. Nitro-hydrochloric acid, 378. Quinine and rhubarb, 178, 370, 385. Ipecacuan, rhubarb, and oxide of silver, 179. Ammonia and ox-bile, 170. Ammonia and chiretta, 63.—See *Dyspepsia.*

2. Duodenitis.—Acute inflammation seldom limited to duodenum : generally complicated with similar disease in stomach, jejunum, or ileum ; or with inflammation of gall-bladder, or undersurface of liver, accompanied by jaundice.

SYMPTOMS. Probably pain about epigastric and right hypochondriac regions ; perhaps only becoming severe about three hours after taking food. Well-marked tenderness about right hypochondrium ; partly owing to inflamed condition of intestine, and partly to sympathetic irritation about liver. Thirst. Unaltered or even increased appetite. Nausea and vomiting. Diarrhœa, with unnatural and offensive stools. Weakness, mental anxiety, and loss of flesh.—When complicated with inflammation of the biliary apparatus, or when due to the irritation set up by a gall-stone (which may cause inflammation, ulceration, and perforation of the walls of the gall-bladder and intestine, so as to allow of its escape into the duodenum), there will be jaundice with the usual results. If there be also pancreatic disease the liquid stools will contain fatty matters.

TREATMENT.—Castor oil, or calomel as an aperient. Opium. Solution of acetate of ammonia. Mucilaginous drinks. Milk diet. Linseed poultices. Poppy-head fomentations. Effervescing salines.

3. Perforating Ulcer of Duodenum.—Presents, in a mitigated form, many of the symptoms of ulcer of stomach. There may be diarrhœa with bloody stools; nausea and vomiting ; great prostration, &c. Fatal perforation sometimes occurs suddenly where premonitory symptoms have been mild. A sloughing ulcer is liable to form in upper part of duodenum, near the head of the pancreas, about the tenth day after a severe burn.—See *Gastric Ulcer.*

4. Cancer of Duodenum.—As a primary affection very rare.

Not unfrequently the duodenum is secondarily involved in progress of hepatic cancer, and in malignant disease of pancreas or neighbouring lymphatic glands. Scirrhus form most common. When the diseased mass presses on the ductus communis there will be jaundice.—Death may occur from inanition, or from peritonitis the result of perforation, or from obstruction of the bowel.—See *Gastric Cancer.*

DYSENTERY.—From Δὺς, difficulty or badness : ἔντερον, intestine. Synon. *Colitis ; Colorectitis ; Bloody Flux.*—A specific inflammation and ulceration of mucous lining (occasionally also of other tissues) of the colon, especially perhaps of lower part of this gut and rectum ; attended with febrile disturbance, severe griping pains, mucous and bloody stools, and great prostration. Has been improperly termed *colitis* (*colon*, the large gut ; terminal *itis*) ; cases occurring where ulceration does not stop at ilio-cæcal valve, but extends several inches up small intestine.

Severe dysentery rare in this country. Sometimes breaks out in unhealthy localities. In tropics often very fatal.—Has been ascribed to wet and cold, contagion, malaria, polluted water, intemperance, deprivation of fresh fruit and vegetables, bad or insufficient or salt food, insufficient clothing, &c.

Symptoms. *Acute form* :—Uneasiness and pain in abdomen of a griping character (*tormina*, from *torqueo*, to torture), with frequent inclination to go to stool, lasting three or four days. As ulceration commences, desire to empty bowel becomes more frequent, and is followed by shorter interval of ease. Evacuations scanty, thin, mucous, bloody ; mixed with small hard lumps of fæces (*scybala* from Σκύβαλον, excrement). The scanty stools produce great distress ; griping, and straining without any evacuation (*tenesmus*, from Τείνω, to strain); peculiarly fœtid and dark-coloured motions, mixed with blood and purulent matter and shreds of lymph; frequent micturition ; urine high-coloured ; gives rise to scalding. Sometimes constant desire to micturate, only a few drops coming away at a time (*strangury*, from Στράγξ, a drop; οὖρον, urine). Great constitutional disturbance and prostration.

Often associated with hepatitis and hepatic abscess. May end in perforation of bowel and fatal peritonitis : in rupture and fæcal abscess : in septicæmia and secondary abscesses : in fatal exhaustion. After healing of ulcerations in favourable cases there may be troublesome constipation from contraction of cicatrices.

Chronic variety :—Most intractable. Often causes atrophy of mucous membrane with degeneration of intestinal glands : or imperfectly cicatrized ulcers remain in tissues of cæcum, colon, or rectum. Most cases recover. Sometimes, however, patient gradually wastes : skin gets dry and scaly : improvement one day with relapse the next : discharges of fæcal matter, mixed with thin pus and blood, most offensive : the exhaustion, pains, tenesmus, &c., render death welcome.

Treatment. *Acute* :—Perfect rest in bed, in well-ventilated room. Warmth. Demulcent drinks. Ice. Farinaceous food: milk or cream: thin broths. Warm bath. Fomentations: linseed poultices: wet compress. A few doses of castor oil (164) if there be lodgment of scybala. Sulphate of magnesia, in one or two drachm doses every three or four hours, till character of diarrhœa altered, often useful. Ipecacuanha most valuable, given thus:—Interdict use of fluids for three hours: apply a large hot linseed poultice, containing two or three tablespoonfuls of mustard, over epigastrium: a full dose of opium in form of enema or suppository: thirty or forty-five minutes subsequently give from thirty to sixty grains of ipecacuan powder in form of bolus, in mucilaginous draught, or wrapped up in wafer-paper; repeating dose, if necessary, at end of six or twelve or twenty-four hours. *Subsequently:*—Opium suppositories or enemata, 339, 340. If there be weakness and anæmia, salicin; quinine; bark and ether; cascarilla; or some mild preparation of steel. If stools continue numerous and frothy and bloody, bismuth; gallic acid; kino; logwood; sulphate of copper. In scorbutic cases, lemon or orange juice. Generous diet; milk or cream, raw eggs, strong broths, ripe grapes, perhaps stimulants. Restorative soup, 3.

Remedies sometimes employed:—Bloodletting. Leeches to anus. Emetics. Calomel. Compound powder of jalap. Sulphur. Acid tartrate of potash. Nitrate of silver. Tartaric acid. American hellebore (Veratrum viride). Belladonna. Hydrocyanic acid. Infusion of linseed. Mucilage of tragacanth. Tobacco fomentations. Turpentine stupes.

Chronic or subacute:—Residence in a mild, dry, equable climate. Sea voyage. Warm clothing. Constant use of flannel roller round belly. In severe cases exclusively milk diet. Plain animal food: milk or cream: raw eggs. Grapes: oranges. Morphia. Chloroform, morphia, and Indian hemp, 317. Liquid extract of bael, 58, 97. Sumbul and ether, 95. Pill of lead and opium (officinal). Sulphate of copper and opium, 106. Nitrate of silver and opium, 107. Kino and logwood, 108. Matico and rhatany, 105. Gallic acid, 103. Australian red gum. Alum and sulphuric acid, 115. Tannic acid lozenges. White bismuth, 65, 112. Vegetable charcoal, 98. Iron alum, 116. Tincture of perchloride of iron. Reduced iron. Nitro-hydrochloric acid, 378. Pepsine, 420. Cod liver oil. Quinine, rhubarb, and hop, 370. Enemata of acetate of lead and liquor opii.

DYSMENORRHŒA.—From Δὺς, difficulty; μὴν, a month; ῥέω, to flow. The painful performance of menstruation due to numerous factors, most generally centred in the nervous or the circulatory systems, or in abnormal states of the uterus or ovaries. Very frequently two or more of these combined. For convenience may be classed under three heads, if inflammatory conditions are excluded.

1. **Neuralgic Dysmenorrhœa.**—Spasmodic. Afflicts nervous women, in delicate health, about time of puberty: or may come on after some years of painless menstruation, especially in those who have never been pregnant. Morbid states of nervous system associated with anæmia, commonly present as in other neuralgias: pain excited by menstrual local congestion. May equally be a consequence of general plethora; sometimes of gout, rheumatism or malaria.

SYMPTOMS. Malaise, headache, with pain about sacrum and lower part of abdomen for a few days prior to period. Soreness of inner and upper part of thighs, breasts and intercostal nerves. Bearing-down, with sense of pelvic weight. If discharge comes on freely, relief experienced. Commonly, flow is scanty—slight gushes; rarely clots as in obstructive form; suffering becomes acute, sometimes vomiting. Pain lessens and returns. Hysteria. Flatulence and constipation. Pain often in ovaries, rather than in uterus. No swelling or heat of parts.

TREATMENT. *During paroxysm:*—Hot hip bath for thirty or forty-five minutes. Mustard bath or hot pack. Pessary of oxide of zinc and belladonna, or of iodoform, or of conia, 423. Indian hemp, aconite, ether, and juniper, 342. Morphia, chloroform, and Indian hemp, 317. Opium and henbane, with hot gin and water, 343. Bromide of potassium, gr. xx every four hours. Hypodermic injection of morphia, 314. Linseed, or hemlock, poultice to abdomen; ¼ or ½ gr. morphia suppository every eight or ten hours.

During interval:—Quinine and mineral acid, 379. Bark, phosphoric acid, and aconite, 376. Salicin, 388. Phosphorus. Hypophosphite of soda and sumbul, 419. Cod liver oil, 389. Compound rhubarb pill. Effervescing citrate of magnesia. Taraxacum juice. Pepsine, 420. Iodide of lead and belladonna pessaries, 423. Chamomile tea. Nourishing food: substitution of milk or cocoa for tea and coffee. Wine; weak brandy and water; bitter ale. Avoidance of sexual intercourse. Hot douches 110° daily. Warm sea baths. If there is gouty or rheumatic diathesis, colchicum, and guaiacum. If plethora, purgatives and avoidance of stimulants. Exercise.

2. **Membranous Dysmenorrhœa.**—Generally occurs at later period of life than neuralgic form. The menstrual decidua is thrown off in pieces of greater or less size instead of disintegrated. Must not be confused with spasmodic dysmenorrhœa in a plethoric subject.

SYMPTOMS. Suffering begins four or five days before each period. Backache; weariness and restlessness; sense of pelvic weight; irritability of bladder. Hæmorrhoids; frequent flushings; throbbing uterine pain. Discharge comes on gradually: scanty at commencement; relief follows abundant flow. Clots and shreds, or flakes of membrane expelled: sometimes pear-shaped casts of uterine cavity, formed of epithelial lining of uterus, analogous to decidua. Uterus found congested, lips œdematous, on examination; sometimes displaced: ovaries tender. Swelling and tenderness of breasts. Some hold that well-formed membranes discharged every month represent monthly abortions.

TREATMENT. *During paroxysm*:—Same as for neuralgic form, 342. Chloral hydrat. gr. xx. dose. T. cannabis Indica, min. x or xx. Bromides in xx gr. doses; ¼ or ½ gr. of morphia suppository if pain severe.

During interval:—See that there is a straight and open cervical canal. Treat the endometrium with iodine or other application, and any obvious abnormality by suitable remedies. Keep the bowels open. Mercury and conium, or iodide of lead and belladonna or conia pessaries, 423. Corrosive sublimate, 27. Iodide of potassium, 31. Bromide of potassium, 42. Arsenic. Mercurial vapour baths, 131. Colchicum, 46. Cod liver oil. Plain living; absence of stimulants. Hot water douches 110° daily. Pregnancy sometimes is curative; pain may reappear after delivery. Cold salt water hip baths. Moderate exercise in open air. Sea air.

3. Mechanical Dysmenorrhœa.—That form in which there is stricture of internal or external os uteri; or a narrowing of entire canal of cervix; conditions causing sterility as well as dysmenorrhœa. Stenosis uteri common without pain, therefore mechanical dysmenorrhœa is generally due to associated conditions; partakes partly of spasmodic form.

SYMPTOMS. Indicative of obstruction to escape of menstrual fluid. A scanty flow: discharge escapes in gushes; each gush attended by pain. Backache. Irritability of bladder. Congestion and tenderness of ovaries. Examination reveals a very small os uteri; or an orifice of normal size, stricture being detected by uterine sound at internal os. Sometimes, os uteri only slightly smaller than natural; but under influence of menstrual molimen spasmodic contraction occurs, with all the suffering of organic stricture.

TREATMENT. Dilatation by Hegar's or Duncan's dilators. Incision of uterine canal with hysterotome (Routh's or Simpson's); followed by plugging with oiled lint; or introduction of a spring stem pessary may sometimes be recommended; not free from danger. Dilatation, by sea-tangle or sponge-tents, less likely than incision to affect permanent cure; may be followed by pelvic cellulitis, metritis, or ovaritis, but generally avoided by antiseptic precautions.—See *Endometritis*.

DYSPEPSIA.—From Δὺς, difficulty; πέπτω, to digest. Synon. *Apepsia; Digestio Difficilis; Concoctio Tarda; Indigestion.*—Anything which interferes with the healthy action of stomach and intestines may give rise to indigestion.

SYMPTOMS. Variable in nature and severity. Loss of appetite. Pain, weight, and fulness at epigastrium, especially after eating.

atulence. Nausea and vomiting. Costiveness alternating with
rrhœa. Furred tongue and foul breath. Palpitation. Head-
ac. Pain under left scapula in loins and limbs. Heartburn.
amp in stomach. Water-brash. Hypochondriasis.

In *slow digestion* from scanty secretion of gastric juice,—a
ling of fulness and distension in left hypochondrium, and at
of stomach, after food. Flatulence; sour eructations; con-
pation; coated tongue; palpitation and irregular action of
art; headache and mental depression, &c.

TREATMENT. *General Directions*:—Digestion to be improved
means which invigorate system generally:—Rest and early
urs. Relaxation from severe studies, or from harassing cares
d anxieties of business. One day's holiday in every seven.
ange of air; sea-bathing. Cold or tepid sponging. Wet
mpress over stomach, 136. Horse exercise; brisk walking.
suse of tobacco. Alcoholic stimulants in great moderation.
e teeth if required should be put in order.

Regulation of Diet:—Plain food in small quantities at regular
ervals. Gruel; sago; arrowroot. Milk and water. Lime
ater and milk. Stale, or unfermented, or aërated bread. White
h,—especially sole, whiting, brill, turbot. Poultry; sweet-
ead; tripe; mutton; venison; pheasant; hare. Dry sherry;
y Ruster, Ofner Auslese. Carlowitz, Szamarodnya Muscat, or
her white Hungarian wines. Weak cold brandy and water.
mple aërated water; soda water. Coffee, without chicory, but
t after dinner. *Avoidance of*:—Vegetables, save cauliflower,
paragus, vegetable marrow; of raw fruit—save grapes and
anges; of pastry, cheese, tea, beer, port wine and undiluted
irits; of rapid mastication and hurry at mealtimes.

Drugs:—Pepsine, 420. Pepsine and aloes, 155. Pepsine and
eel, 394. Rhubarb. Ipecacuanha and rhubarb, 179. Quinine.
d rhubarb, 178. Rhubarb and blue pill, 171. Rhubarb and
agnesia, 165. Ammonia and rhubarb, 161. Purified ox bile,
0. Nux vomica, 175. Nux vomica, or strychnine and steel.
eel and hydrochloric acid, 397. Steel and citrate of potash,
3. Quinine, rhubarb, and hop, 370. Carbonate of ammonia,
11. Nitro-hydrochloric acid, 378. Salicin, 388. Nitrate of
ver. Oxide of silver. White bismuth. Bicarbonate of
tash. Ipecacuanha. Blue pill. Mercury and chalk. Tarax-
um. Nitric acid. Saccharated solution of lime. Wood
arcoal. Oxalate of cerium. Hydrocyanic acid. Lactic acid.
nnic acid. Gentian. Quassia. Hop. Kino. Serpentary.
iretta. Cascarilla. Calumba. Compound tincture of carda-
oms.—See *Gastralgia; Gastrodynia; Pyrosis.*

In dyspepsia with constipation, the waters of Carlsbad, Fried-
chshall, Marienbad, Franzensbad. In dyspepsia from debility,
pa, Fachingen, Schwalbach.

DYSPHAGIA.—From Δὺς, difficulty; *φάγω*, to eat. Synon.
eglutitio Impedita; Difficulty of Deglutition.—Difficulty in

swallowing is a prominent symptom in disease of pharynx and œsophagus,—as inflammation, ulceration, stricture, spasmodic contraction, polypus, or cancer. It may also arise from glossitis, acute or chronic tonsillitis, diphtheria, croup. From erysipelatous or other inflammation of areolar tissue of neck. Retro-pharyngeal abscess. Glosso-laryngeal paralysis; paralysis of muscles of deglutition; progressive paralysis of insane; progressive muscular atrophy; paralysis agitans. Tetanus. Myelitis. Malignant, syphilitic, and tubercular ulcerations about epiglottis. Syphilitic ulceration of velum and fauces. The pressure of aneurismal or other tumours. Spasm of pharynx and œsophagus, as in hydrophobia. Inflammation, ulceration or œdema of larynx. And rarely from disease of laryngeal cartilages.

DYSPHONIA CLERICORUM.—From Δὺς, difficulty or pain; φωνὴ, the voice: *Clericus*, a clergyman. Synon. *Follicular Disease of Pharyngo-laryngeal Membrane.*—Frequently, a nervous complaint; unattended in early stage by any organic lesion, but consisting of hyperæsthesia or irritability of investing membrane of fauces. Subsequently, congestion or inflammation or relaxation of mucous membrane; enlargement of tonsils; elongation of uvula; irritation, inflammation, morbid deposit, and ulceration of mucous follicles about isthmus faucium.—Clergymen, barristers, public speakers, actors, singers, &c., most liable to this disease.

SYMPTOMS. Uneasy sensations in upper part of throat, with frequent inclination to swallow, as if there were something in œsophagus. Coughing, hawking, and spitting of phlegm. Uneasiness or pain about larynx. Diminution in power of voice; hoarseness, especially toward evening: sometimes aphonia. Unhealthy, granular appearance of fauces. Mucous follicles seem to be filled with yellowish matter. A viscid muco-purulent secretion adhering to palate and velum.

TREATMENT. *Early stage:*—Quinine and iron, 380. Steel and pepsine, 394. Quinine and nux vomica, 387. Phosphate of iron, 405. Iron alum, 116. Sulphurous acid. Cold shower baths, or sea bathing. Rest of voice. Temporary change of scene and occupation.

Confirmed stage:—Iodide of potassium, 31. Iodide of iron, 32, 390. Iodide of ammonia, 38. Bromide of ammonium, 37. Corrosive sublimate, 27. Phosphate of zinc, 414. Strychnine and steel, 408. Steel and chlorate of potash, 402. Quinine, steel, and arsenic, 381. Phosphoric acid, nux vomica, and bark, 376. Cod liver oil, 389. Nourishing food. Sea air. Undercliff, Torquay, Pau, Malaga, Algiers.

Local applications:—Inhalation of atomised alterative or astringent fluids, 262. Sulphurous acid inhalation. Sponging diseased parts, including interior of larynx, with solution of nitrate of silver (gr. 40—60 of crystals to fl. oz. j). Outside of throat to be tected; beard to be worn. Excision of tonsils or uvula, if y be affected with chronic enlargement and induration.

DYSPNŒA.—From Δὺς, difficulty; πνέω, to breathe. Synon. *eudo-Asthma; Respiratio Difficilis; Short Breath.*—May be *aryngeal*, from inflammatory swelling of fauces, tonsils, &c.

Laryngeal in croup, laryngitis, œdema of glottis, syphilitic, ercular, or malignant diseases of larynx, foreign bodies or owths; laryngismus stridulus; spasm or paralysis from pres-re on laryngeal nerves by inter-thoracic aneurism, tumour, &c.

Tracheal. From ulceration and narrowing, or from pressure aneurism or tumours.

Pulmonic. From bronchitis, asthma, effusion into pleura, dis-e of lungs.

Cardiac. From valvular, or other disease, causing obstruction entry of blood into heart from pulmonary veins.

Uræmic. Usually nocturnal. Causation uncertain. Whether om action of poison on nerve centres, or from arterial spasm.

Other causes are, arrest of respiratory movement by spasm tanus) or paralysis of thoracic muscles and diaphragm. essure on diaphragm by ascitic fluid, abdominal tumour, egnant uterus.

Simple shortness of breath may be caused by anæmia, debility, esity, nervousness.

ECLAMPSIA NUTANS.—From Ἐκλάμπω, to emit brilliant ht; *Nuto*, to nod. Synon. *Salaam Convulsions of Infancy.*

A rare disease of infants; attended with a frequent bowing the head. Probably a form of epilepsy. Sometimes leads to pairment of intellect.

SYMPTOMS. A peculiar, involuntarily, rapid bowing forward the head, and occasionally of the body. Bowings repeated in id succession; attacks come on in paroxysms several times day. Most severe seizures usually occur in morning, on king from night's rest. After a time,—cerebral symptoms; nvulsions; pure epilepsy; hemiplegia or paraplegia; general sting. In favourable cases, symptoms remit at end of some nths; bodily health completely restored in two or three years.

TREATMENT. Intestinal secretions to be kept healthy by ld alteratives,—mercury and chalk, rhubarb and soda, syrup senna. Tonics,—bark and ammonia; quinine; phosphate of n and lime, &c., 405. Cod liver oil, 389. Nourishing food. arm clothing. Sea air. Tepid salt water baths. Ether spray cervical spine. As *palliatives*,—chloroform inhalation: small ses of hydrocyanic acid. Opium aggravates the attacks.

ECSTASY.—Ἔκστασις, a deep trance; from Ἐξίστημι, to put a rson out of his natural state. Synon. *Catalepsia Spuria.*— condition analogous to the cataleptic. Patient absorbed in ntemplation of some imaginary object. Eyes immovably fixed: passioned sentences, fervent prayers, psalms and hymns are recited with great expression. Religious fanatics, by encouraging some predominant idea, fall into a state resembling incipient stage of monomania. "Gift of unknown tongues" mostly manifested by nervous women in a morbid condition. So also the *Stigmata*, hæmorrhagic patches in the hands, feet, side and brow. Faith, imagination, enthusiasm, and especially an irresistible propensity to imitation, will explain the origin of tarantism, dancing mania, convulsionaires of St. Medard, &c.—For treatment, see *Hysteria*.

ECTHYMA.—From 'Εκθύω, to break out in eruptions. A non-contagious inflammation of the skin; characterised by round, prominent pustules, the size of a pea, occurring upon any part of the body, most common on limbs and neck. Pustules usually distinct; seated upon an inflamed base; terminate in thick, dark-coloured scabs, which leave superficial ulcers followed by cicatrices.—May be *acute*, and preceded by lancinating pains with fever: more commonly *chronic*, and due to bad living, bad hygienic surroundings, syphilis, &c. If it attacks an infant at the breast, eruption is chiefly on face and chest. It may be complicated by diarrhœa and sweating, and is often fatal. May be met with on scalp of badly nourished infants. In *ecthyma cachecticum*, ulcers assume an unhealthy appearance; general health much deteriorated; generally affects the lower limbs.

Ecthyma Syphiliticum is a tertiary eruption, irregular and unsymmetrical. Pustules on inflamed bases. Fluid becomes purulent. Pustules soon burst and leave ulcers, which extend at the edges and leave scars when healed.

TREATMENT. In infantile ecthyma a good wet-nurse. Cleanliness and careful hygiene. Change of air. Nourishing food with some alcohol. Mineral acids and bark, 376. Nitro-hydrochloric acid, 378. Quinine and steel, 380. Quinine, steel, and arsenic, 381. Steel and aloes, 154. Steel and sulphate of magnesia, 166. Iodide of potassium. Opium. Henbane. Cod liver oil. Syphilitic ecthyma requires specific treatment. Grey powder or inunction of mercury. *Locally*:—Mild stimulating applications, as dilute solution of subacetate of lead, oxide of zinc ointment, or subacetate of lead ointment to the scabs or ulcers.

ECTROPION.—From 'Εκτρέπω, to turn from. Synon. *Blepharoptosis; Divaricatio Palpebrarum.*—Eversion of the eyelid may be due to long-continued conjunctivitis, or to the contraction of one or more cicatrices on the cheek, or to dropping of lower lid from paralysis. More common with lower than with upper lid.

TREATMENT. Surgical operation.

ECZEMA.—From 'Εκζέω, to break forth in pustules. Synon. *Running Scall; Humid Tetter.* The most common non-contagious n disease. Usually classified with vesicular diseases, but s questioned, as the eruption may be papular, pustular, or amous, &c. A portion of skin becomes irritable, smarting, rning, red, inflamed, and stiff ; in typical cases covered with nute vesicles ; cuticle desquamates ; a discharge of serum es place from follicles and sebaceous ducts of skin ; and erficial moist excoriations, or patches of ulceration, covered h scabs or crusts, result. Copious exfoliations of dried dation and epidermis which form large scabs. General alth depressed : loss of appetite, irritability, restlessness. The ease may be acute or chronic. The acute is the mildest form: simplex. Chronic eczema presents many varieties, named m—(*a*) part of body affected, as E. manuum ; (*b*) the exciting se, as E. solare ; (*c*) the character of the eruption, as E. squasum. Eczema rubrum is a very serious form of disease.— *Pityriasis rubra.*

TREATMENT. *Internally:*—Simple diet without stimulants; gative with aperient mineral waters of Carlsbad, &c. Antiny $\frac{1}{12}$ to $\frac{1}{6}$ gr. two or three times a day. If patient gouty e colchicum, alkalies, or guaiacum ; later, arsenic, iron, nine, strychnine, or cod liver oil. It may be necessary give chloral or bromide at bedtime to allay itching and cure sleep. Bran bath sometimes useful.

Locally:—Protection from scratching, from heat and cold, and n washing, except with thin oatmeal water (without soap). sts may be removed by oil or poultices. A good absorbent ting powder is rice powder, oxide of zinc, or starch, with 2 or er cent. of finely powdered salicylic or boric acid. Ointments usually better than lotions, keeping the skin supple and ing as a protection. These should be made with vaseline, and er oxide of zinc, lead, bismuth, calamine, mild mercurials, carbolic or salicylic acid 5 per cent., icthyol 5 per cent., orcin 5 per cent., sulphur, or chrysophanic acid. Most of the e may be used in lotions if preferred.

The locality will often necessitate special treatment. calp or hairy parts of face. Hair must be cut off short, crusts oved by oil or poultice, and astringent or other applications le.—Hands and feet. The thickened epidermis must be removed salicylic plaster or mull or by soaking in pancreatic emulsion ocker), or papain (Morris), and then apply salicylic or merial ointment. If due to handling sugar, lime, or flour, patient y have to change his trade.—Legs. After removing crusts, ss with mild astringent ointment. Apply rubber bandage keep the patient recumbent.

ELEPHANTIASIS GRÆCORUM.—From Ἐλέφας, the elephant, wing to the terrible nature of the disease, and its causing skin to resemble that of the elephant. Synon. *Leprosy. Elentiasis Anæsthetica; Lazari Malum; True Leprosy.*—A terrible and dangerous constitutional disease: gradually becoming more and more rare. Norway only European country in which it is now common. It is endemic: affects the poor and badly nourished in preference to the well-fed: contagiousness proved by case of Keuaw, a Harwarian at Honolulu; incubation three years, hereditary, and generally incurable.

Characterised by patches of a purplish colour, *Lepra maculosa;* which are succeeded by elevated tumours, *Lepra tuberculosa*, or *Lepra nodosa;* irregular in shape and size, soft and smooth and insensible to touch, *Lepra anæsthetica;* and which generally become the seat of unhealthy ulceration. Skin of face often affected; an elongation and thickening of lobes of ear; and a spreading out of alæ of nose. When face beset with tubercles, features become puffed out and traversed by deep lines; lips thicken; whiskers and eyebrows and eyelashes fall off. Countenance described as "leonine." Gradually, tubercles extend over the limbs; sensibility of mind and body becomes greatly blunted, until there is mere animal life. After some years, tubercles ulcerate; there is ozæna; fingers and toes become gangrenous, and drop off, the stumps healing; body exhales a loathsome fetor. Death occurs from exhaustion, diarrhœa, or erysipelas. Said to be due to a specific organism, *Bacillus Lepra*, which infiltrates the nerves and other structures. The nerves are greatly thickened and very firm.

TREATMENT. Practically useless. Arsenic. Nitro-hydrochloric acid. Nitric acid. Iodide of potassium. Iodide of iron. Bromide of potassium. Powdered bark of root of Mudar (Calotropis gigantea; Asclepias gigantea). Belvilacqua (Asiatic pennywort; Hydrocotyle Asiatica) internally, and locally to ulcerations. Frictions with Chaulmoogra oil. Phosphorus. Cod liver oil. Sudorific drinks. Turkish baths. Sulphur baths. Sea water baths. Sea air. Nourishing food; avoidance of salt meats. The Jews of Morocco are said to employ, as a prophylactic remedy, brandy distilled from raisins, pears, figs, and dates.

ELEPHANTIASIS ARABUM.—Synon. *Barbadoes Leg; Pachyderma.*—Characterized by great swelling and induration of true skin, or derma. Due to obstruction of lymphatics by the Filaria sanguinis hominis. Produces most marked deformity. Sometimes subjacent areolar and adipose tissues are implicated. Most frequently attacks lower extremities; swelling so great that limb becomes double its natural size. Hardness, severe pain and thickening; with an appearance resembling the leg of an elephant, whence the disease has unfortunately derived one of its names (Ελέφας, the elephant). The scrotum not an uncommon seat. Rarely met with in Europe: occurs principally in West Indies. Generally continues for life; is accompanied by periodical febrile attacks; neither contagious nor hereditary; attacks males and females, rich and poor, indiscriminately.

en confined to one foot and leg, amputation has been resorted with advantage. Ligature of main artery of limb. The cess which has followed removal of large scrotal tumours in dia is very remarkable. Bandaging with elastic bandage and sing the limb may be tried.

EMBOLISM.—From Ἔμβολος, a plug.—A term used to desig- e the obstruction of an artery by a fibrinous concretion ached and transported from the interior of the heart or of ne vessel, and carried onwards by the blood until the calibre the vessel becomes too small to allow of further progress. e migratory substance is called an *embolus*.

SYMPTOMS. They depend upon the organ in which the bolus is arrested. A large clot from an inflamed vein fixed in lmonary artery will induce immediate asphyxia; or if able to ss on into lung, may be the cause of hæmoptysis, pleuro- eumonia, or even gangrene. Obstruction of the chief vessel of imb will induce mortification. Plugging of cerebral artery y cause hemiplegia and softening of portion of brain; of al artery, albuminuria. Capillary embolism plays an im- rtant part in pyæmia and other conditions. Septic particles sorbed from a focus of unhealthy suppuration lodge in the pillaries of distant parts, and there set up secondary inflamma- n and abscesses.

TREATMENT.—See *Thrombosis*.

EMMETROPIA.—From Ἔμμετρος, in regular measure; ὤψ, the e. Synon. *Normal-sightedness.*—The emmetropic eye can dis- guish the presence of an object the 600th of an inch in size at distance of six inches. Can read Snellen's types at indicated stances.

The power of vision often injured by use of single eye-glasses. ght blue spectacles—"conservative spectacles"—do harm, e retina being benefited by the stimulus of white light. It uld be as wise to employ "conservative" crutches to spare the scles.

EMPHYSEMA.—From Ἐμφυσάω, to inflate. Two varieties:— e consisting of enlargement and coalescence of air-cells, atrophy their walls, and obliteration of their vessels (*vesicular* or *pul- nary* emphysema). The other due to infiltration of air into terlobular areolar tissue, or into sub-pleural areolar tissue *terlobular* or *interstitial* emphysema). Both forms produce bitual shortness of breath; occasional paroxysms of asthma; d such distress, that sufferer is unfit for any active occupation. hey often lead to disease of right cavities of heart, with venous ngestion and dropsy.

1. **Vesicular Emphysema.**—May affect one lung or both, or a rt of each—especially anterior edges and apices.

Symptoms. Dyspnœa, increased on any exertion. Feeble cough. Expectoration of frothy sputa. Dusky and pallid appearance of countenance. Weakness of voice. Stooping gait. Loss of flesh and strength, lowered temperature of body. Constipation. Weak and slow pulse. Attacks of asthma. Chest barrel-shaped; little respiratory movement of chest walls. On percussion,—unnatural clearness and extent of resonance. On auscultation,—various sounds, mostly of wheezing nature; the most characteristic is loud harsh inspiratory and expiratory murmur. Occasionally, a moist râle, like sub-crepitant rattle of bronchitis. Heart's sounds feeble: often cardiac displacement.

Treatment. Invigorating diet, with attention to digestive organs. Rest. Warm clothing. Carbonate of ammonia, 361, 371. Ammonia and ether, 85, 364. Lobelia and ether, 88. Sumbul and hop, 369. Quinine 379. Quinine and steel, 380. Steel and pepsine, 394. Cod liver oil, 389. Steel and cocoa-nut oil, 391. Phosphate of iron, 405. Stramonium smoking. Raspail camphor cigarettes. Use of respirator. Warm climate. For accompanying bronchitis, see *Bronchitis.*

2. **Interlobular Emphysema.**—Generally due to sudden rupture of air-cells by violent strain. Very rarely associated with vesicular emphysema. Can only be relieved by antispasmodics. When extensive may at once prove fatal. If associated with pneumothorax, an opening may be made into the pleural cavity.

EMPYEMA.—From 'Eν, within; πύον, pus. Synon. *Pyothorax, Hydrothorax Purulentus.*—The formation and accumulation of pus in the cavity of the pleura. Some physicians speak of true and false empyema: the first form being that in which pus is secreted by pleura in consequence of inflammation; the second, that in which pus finds its way into thoracic cavity from rupture of an abscess of lung.—See *Pleurisy.*

ENDOCARDITIS.—From 'Eνδον, within; καρδία, the heart; terminal *-itis.* Synon. *Internal Carditis.*—Inflammation of the serous membrane which lines the interior of the heart, and which by its reduplications assists to form the valves.—Endocarditis common in acute rheumatism, sometimes associated with pericarditis. May be secondary to renal disease, septicæmia, &c. Ulcerative endocarditis, a septic disease with special symptoms. Chronic endocarditis giving rise to changes in the valves may be caused by gout, by protracted high tension in the arteries, by strain from laborious occupations, &c.

Symptoms. In severe forms, a sense of oppression and uneasiness at præcordial region. Fever. Small and feeble and intermittent pulse. Patient prefers to lie on his back; is restless and anxious. Cold sweats. Oppressive dyspnœa. Jactitation. Syncope.

In ulcerative endocarditis which may come on in depressed constitution, in addition to above symptoms there will be irregular high temperature, evidences of general distribution of emboli, petechiæ on the skin and fever of typhoid character.

When endocarditis is of limited extent, or of subacute character, as is most commonly the case, symptoms milder and more obscure. During rheumatic fever, it sometimes occurs without being recognised; though its power is manifested by the structural changes which remain after apparent recovery.—Endocarditis of left, more common than of right side of heart. That portion of membrane covering valves and lining orifices most frequently attacked. Seldom directly fatal; remote effects most to be dreaded.

Physical signs :—Palpation may detect vibratory thrill. Doubtful if there be ever increased dulness on percussion, owing to tumefaction of heart's walls. A soft mitral or aortic bellows-murmur detected by auscultation, but not always present in early stage.—See *Cardiac Valvular Disease.*

Terminations :—Permanent valvular disease, with implication of heart's substance, and all their combined consequences. Systemic loss of tone; impoverishment of blood; obstruction to circulation; dropsy. Perhaps sudden death.—See *Embolism.*

TREATMENT. Perfect rest of body and mind. Sulphate of magnesia, or sulphate of soda, if there be constipation, 141, 144, 150, 152. Carbonate of ammonia, 361, 362. Aromatic spirit of ammonia, 349. Bicarbonate of potash drink, 355. Salicylate of soda or salicylic acid, as for acute rheumatism. Antipyretics. Quinine. Linseed poultices over cardiac region. Light diet.

ENDOMETRITIS.—From Ἔνδον, within; μήτρα, the womb; terminal *-itis.* Catarrhal inflammation of the lining of the uterus. If confined to the cervix uteri *cervical.* If extending into the body of the uterus *corporeal.* Either may be acute or chronic. The acute form usually involves the parenchyma of the uterus; if of the cervix only, *Cervicitis;* if the whole uterus, *Metritis* (which see).

SYMPTOMS. *Acute variety* :—Dry hot skin; general irritability; allow complexion; loss of appetite. Pain about lower part of abdomen, sacrum, groins, inside of thighs. Sense of heat and ulness about pelvis: bearing-down. Frequent micturition; urine oaded with urates or uric acid. Tenesmus and diarrhœa; ubsequently constipation. Hæmorrhoids. Tenderness of ovaries and uterus on pressure. Thick and tenacious discharge fter two or three days: subsequently, muco-purulent secretion tinged with blood, imparting a greenish-yellow or yellowish-red tain to body linen.

Chronic form :—Runs a tedious course. Obstinate dyspepsia; atulence; constipation; mental depression. Wearying pains bout sacrum, groins, &c. Discharge of abundant glairy mucus, resembling white of egg or mucilage. Increasing debility. Hysterical or convulsive affections, severe nausea, tympanites, tenderness of breasts, and menorrhagia, if lining of uterus be involved.

Treatment. *Acute variety :*—Rest in bed. Diet of fish, milk, tea, mucilaginous drinks. Castor oil. Calomel and compound jalap powder, 159. Warm hip baths. Warm water vaginal douches, 110°. Mercury and belladonna pessary, 423. Linseed poultices to lower part of abdomen. Four or six leeches to lips of uterus, or scarification of the cervix. Application of glycerine on wool tampon to the cervix at bed time. Nitrate of potash, or acetate of ammonia. Bromides and ergot. Morphia ¼ gr. in bowel if local pain severe. Avoidance of sexual intercourse.

Chronic form :—Corrosive sublimate, 27. Iodide of potassium, 31. Mercury, or iodide of lead, and belladonna pessaries, 423. Pepsine, 420. Cod liver oil. Leeches to labia uteri, or scarifications, only if there be congestion and no tendency to menorrhagia. Intra-uterine medication through Ferguson's speculum by means of absorbent wool wrapped on a uterine probe ; the cervical canal usually is patent, if not, dilatation may be necessary, preferably by means of dilators. A few drops of acid nitrate of mercury, or (Churchill's) iodine, liquefied carbolic acid, fused nitrate of silver, or solution ʒj to ℥j being best, at intervals of a week. Daily use of a douche, water 110°. Animal food, milk, raw eggs, Avoidance of malt liquors. Gentle exercise in open air.—Subsequently,—Mineral acids with bark, 376. Quinine, 379. Nitro-hydrochloric acid, 378. Steel and pepsine, 394. Phosphate of iron, 405. Mineral waters of Spa, Homburg, Carlsbad, Marienbad, Kissingen.

Granular or fungus type :—Due to adenomatous changes in endometrium, which is naturally reproduced monthly. In this form dilatation with curetting is the preferable treatment.

ENDOSTEITIS.—From 'Ενδον, within ; ὀστέον, a bone ; terminal *-itis.*—Inflammation of medullary membrane lining central canal of long bones, as well as cells of flat and irregular bones.—See *Osteomyelitis.*

ENTEITRIS.—From 'Εντερον, an intestine : terminal *-itis.* Synon. *Intestinorum Inflammatio.*—Inflammation of the small intestines varies much in severity. Results sometimes very slight. There are no signs by which the morbid action can be positively diagnosed as existing only in duodenum, or in jejunum, or in ileum. All the coats of the bowel may be involved, or only the mucous lining.

Symptoms.—*Muco-Enteritis,* or *acute intestinal catarrh,* a form of diarrhœa, with bilious, and mucous or later serous stools. When the muscular coat involved, rigors ; hot skin ; thirst ; hard and frequent pulse. Abdominal pain, especially around umbilicus ; increased by pressure. Nausea and vomiting. Position on the back assumed, so as to relax abdominal parietes. Great restlessness ; high fever ; prostration ; anxiety of countenance ; obstinate constipation ; delirium. Wiry and almost imperceptible pulse. Vomited matters highly offensive : sometimes stercoraceous, if there is obstruction.

TREATMENT. Perfect quiet in bed. Enemata of warm water, to empty lower part of intestines. Ice or cold water. Demulcent drinks. Broth ; beef tea ; farinaceous substances ; milk. Tinct. opii min. v every four hours with bismuth or astringents. Starch and opium enema ; as little opium as possible for a child. Hot linseed poultices. Fomentations. Application of belladonna and opium, 297. Turpentine stupes. Sinapisms. Blisters.—*Where there is a disposition to collapse :*—Ammonia and æther, 364. Brandy and egg mixture, with opium, 318. Brandy and ether, 367. *During convalescence :*—Ammonia and bark, 371. Cod liver oil. Steel and cocoanut oil, 391. Steel and glycerine, 392. Phosphate of iron, 405. Simple animal food ; milk ; raw eggs.

ENTOZOA.—From 'Εντὸς, within ; ζῶον, an animal. The parasitic animals which infest the human body are very numerous. Helminthologists are well acquainted with a large number of orms. The following are those of importance :—

I. Trematoda.—This group includes the "flukes," such as *Distoma hepaticum*, which produces the rot in all varieties of grazing cattle. It has been found in the human gall-bladder and in subcutaneous abscesses. It is flat and pointed at each end, under half-an-inch in length, rather more in breadth, and has an val and a ventral sucker. Several other species have been ound, accidentally, in man. "As a rule, the human flukes have very little clinical importance" (Cobbold), except *Distoma crassum* (Busk), a large species, sometimes three inches long and half-an-inch broad, flat and pointed at each end like a common fluke. It inhabits the intestine in considerable numbers, causing diarrhœa and colic, and has been found in a Lascar (Busk), and in a missionary and his family, who lived in China (Dr. George ohnson). Santonine and other anthelmintics of no avail ; milk diet starves the fluke and causes its expulsion. Allied to *Distoma* the worm-like Bilharzia hæmatobia.—See *Hæmatozoa.*

II. Cestoda.—(1) TÆNIA SOLIUM, or pork tapeworm. In its sexually mature or strobile condition may measure from twenty thirty feet in length : breadth, at widest part, nearly half-an-inch. Head small and flattened, provided with a projecting papilla, armed with a double circle of hooks, and with four suckers : the neck long and narrow, continued into imperfect segments (sexually immature), which gradually merge into distinct segments (proglottides or sexually-mature joints). The generative apparatus consists of a ramified canal or ovarium ntaining the ova, and of a minute spermatic duct, both occupying the centre of each proglottis. Impregnation occurs by contact of one proglottis with another. *Cysticercus cellulosæ*, or pork measle, is the larva or scolex of this tapeworm. It has been found in man in the muscles, eye, brain, &c.; *C. tenuicollis*, from the sheep, has also been found in the human subject.

(2) TÆNIA MEDIOCANELLATA, or beef tapeworm, attains a greater length, and has larger segments than the preceding. Head furnished with large sucking-discs, but destitute of a rostellum and hook-apparatus, hence the parasite is more easily dislodged by remedies. The "measles" or cysticerci which produce this helminth are found in the muscles of cattle. This hookless tapeworm is as common in this country as the Tænia solium, for which it is often mistaken (Cobbold).—See *Intestinal Worms.*

(3) TÆNIA ECHINOCOCCUS.—A very small cestode helminth, infesting only the dog and wolf. Often met with in its larval condition in man, forming the well-known hydatids (echinococci, or acephalocysts). Hydatids are found in the following organs, enumerated according to their frequency :—Liver ; subperitoneal areolar tissue ; omentum ; female breast ; muscles of heart ; brain ; spleen ; kidneys ; lungs ; bones, especially shaft of tibia. —See *Hepatic Tumours.*

(4) BOTHRIOCEPHALUS LATUS.—The largest cestode helminth ever met with in human subject ; sometimes attaining a length of more than twenty-five feet, and a breadth of nearly an inch (Cobbold). Almost peculiar to the inhabitants of Switzerland, Russia, and Poland. Each joint or segment possesses its own ovary and male organs. Its larva is a free ciliated scolex, which swims in the water and infests fish.

III. Nematoda.—(1) ASCARIS LUMBRICOIDES, or round worm ; closely resembles the common earth worm, but whiter. It is about six inches long when full grown, rather rare in the United Kingdom, but common in the East and many tropical countries. —See *Intestinal Worms.*

(2) ASCARIS MYSTAX possesses an alaform appendage on each side of the head. The male acquires a length of two inches and a half : female, twice as long. Very common in cats and dogs, and occasionally found in human intestine (Cobbold).

(3) TRICOCEPHALUS DISPAR is about two inches long, thinner anteriorly than posteriorly, so that it has a whip-like appearance. Inhabits cæcum and large intestines.—See *Intestinal Worms.*

(4) TRICHINA SPIRALIS.—See *Trichiniasis.*

(5) FILARIA SANGUINIS HOMINIS.—See *Hæmatozoa.*

(6) STRONGYLUS BRONCHIALIS.—Synon. *Filaria bronchialis; Filaria lymphatica.*—The male measuring about seven lines, the female about an inch. Has been found in the human bronchial glands.

(7) EUSTRONGYLUS GIGAS.—A very large worm, female reaching three feet in length. Found in the kidneys of some animals, especially weasels. Once or twice found in the human kidney, giving symptoms of renal abscess or calculus.

(8) DOCHMIUS DUODENALIS.—Synon. *Anchylostoma* or *sclerostoma duodenale.*—Has suctional habits like a leech. Swarms in

the duodenum and other parts of the small intestine, causing ravenous appetites and great anæmia from loss of blood absorbed by the worms. The parasite seems to enter the system by drinking water. During the construction of the St. Gothard tunnel an epidemic of this worm occurred amongst the excavators. The worm is common in Brazil and Egypt. For TREATMENT, see *Intestinal Worms.*

(9) OXYURIS VERMICULARIS.—Synon. *Ascaris vermicularis.*—The smallest and most common of intestinal worms. Male about three lines in length: female slightly longer. Inhabits the cæcum (Cobbold) and descends into the rectum often in great masses.—See *Intestinal Worms.*

(10) FILARIA MEDINENSIS.—See *Guinea-worm.*

(11) FILARIA SANGUINIS HOMINIS.—See *Chyluria.*

Other entozoa have occasionally been found in different parts of the human body, and some worms have been introduced into fæces or even into the viscera for the purpose of deception. Many of the rarer entozoa cause no functional derangement.

ENTROPION.—From 'Εν, in ; τρέπω, to turn. Synon. *Inversio Palpebrarum ; Blepharelosis.*—An inversion of the margins of the eyelids. May result from a cicatrix in conjunctiva, neglected purulent ophthalmia, &c. Extraction of the eyelashes will give at least temporary relief. Several operations for removal of ciliary edge, or eversion of lid.

ENURESIS.—From 'Ενουρέω, to urine in bed. Synon. *Hyperuresis ; Incontinence of Urine.*—May be associated with tendency to renal disease ; disposition to gravel : excess of uric acid, urates, or oxalates in urine ; stone in bladder ; loss of tone, or tumours, of walls of bladder ; irritation of threadworms in rectum ; hæmorrhoids and prolapsus ani ; long and contracted fore-skin ; stricture of urethra ; enlarged prostate ; vascular tumours of female urethra ; ovarian or uterine diseases and displacements ; paralysis from spinal disease ; nervous debility ; hysteria ; dyspepsia, &c.

Enuresis very common in young children. Its occurrence favoured by free use of fluids during after part of day ; by exposure to cold in night ; by lying on back—a posture unfavourable to retention of urine, especially when natural sensibility of mucous membrane of neck of bladder is increased.

Can usually be cured by making child almost abstain from fluids for three or four hours before going to bed : waking him to empty bladder twice or thrice during night : tying a cotton reel over spinal column, so that when he turns round upon his back he may be awoke. Atropia sulph. gr. 1 in ℥j. Dose, min. j for each year, given every hour in late afternoon till the pupils dilate ; a child of five would take five drops for a dose. Giving strength and tone to system, by administration of the tincture of perchloride of iron, phosphate of iron, steel, benzoic acid, phosphate of zinc and belladonna, cod liver oil, &c.

Belladonna, or chloral, sometimes effectual. Circumcision will be required, if there be a long prepuce with a very small orifice. In inveterate cases, application of succession of small blisters over sacrum. Where bladder is very irritable, belladonna plaster over loins and sacrum ; or friction with diluted belladonna liniment. Where walls of bladder are weak, nux vomica ; ergot of rye ; galvanism to lower part of abdomen and spine.

EPILEPSY.—From 'Επιλαμβάνω, to attack unexpectedly. Synon. *Morbus Comitialis; Falling Sickness.*—A disease presenting these prominent symptoms :—Sudden loss of consciousness and sensibility, with tonic convulsions lasting a few seconds, and followed by clonic spasms of voluntary muscles. Cessation of fit succeeded by exhaustion and coma. Attack recurs at intervals. Hereditary taint and marriages of consanguinity are predisposing causes.

WARNINGS. Premonitory symptoms of an approaching seizure often not experienced. They differ in duration and character. Sometimes too short to allow sufferer to dismount from horseback, or remove away from fire, or lie down ; sometimes many minutes or hours between their occurrence and fit. There may be change of temper or in spirits for some days, or occasional jerking of muscles. Spectral illusions, hallucinations of smell, headache, giddiness (epileptic vertigo), confusion of thought, sense of fear, and that peculiar sensation—the *aura epileptica*—constitute most frequently premonitory symptoms. Epileptic aura differently compared to a stream of cold water, a current of cold or warm air, sense of tingling, creeping of insects; the feeling beginning at extremity of a limb, or in epigastrium, &c.. and gradually ascending along skin towards head. As soon as the aura stops, the paroxysm occurs.

SYMPTOMS. Cadaverous pallor of countenance, with utterance of a shriek or scream ; immediately after which patient falls to the ground, and frequently on his face, senseless and violently convulsed. Severe burns, fractures, dislocations, &c., may be produced. Convulsive movements continue violent ; usually more marked on one side of body than on the other, or first on one side and then on the other. Distortion of face. Gnashing of teeth, Foaming at mouth ; protrusion of tongue, which is often severely bitten. Eyes partly open and suffused ; eyeballs rolling, and pupils insensible to light. Skin cold and clammy. Perhaps involuntary micturition and defæcation ; vomiting. Breathing laborious, seems about to be suspended ; when the limbs are stretched out, a deep sigh is drawn, and attack goes off. Patient left insensible and as in a sound sleep, with stertorous breathing ; from which he recovers with feeling of stupor and exhaustion and headache, but without any knowledge of what he has gone through. Some hours subsequently, small ecchymoses, like flea-bites, often to be detected about forehead, and throat and chest. Ecchymosis of conjunctiva sometimes produced.

Average duration of fit from two to three minutes. Occasionally said to last some hours: appearance of this due to rapid succession of seizures, without recovery of consciousness in intervals—the *status epilepticus.* Fit may be very slight (*petit mal*), or very severe (*grand* or *haut mal* of the French). Former often only consists of giddiness, confusion of mind, loss of consciousness, little or no convulsion, and stupor, and all is over in less than a minute. Seizures recur at very variable intervals; often happens in the night, and for a time without being suspected by patient or friends. Repetition of attacks impairs memory: may produce cerebral hæmorrhage, temporary or permanent paralysis, or dementia and idiocy.

In *feigned* epilepsy, the impostor does not fall violently, but throws himself down deliberately in such a way as to avoid injury. Eyes are closed; pupils contract to stimulus of light: tongue is not bitten; face is red instead of deadly pale, while skin is hot from necessary exertion; neither urine nor fæces are voided. Proposing to apply actual cautery, or to shave the head, often affects a speedy cure. Blowing snuff up the nostril changes the fit into one of sneezing.

TREATMENT. *During fit:*—Patient to be laid on a large bed or on floor. Air to be freely admitted around him. Head to be raised, and all tight parts of dress loosened. A piece of cork or soft wood to be introduced between teeth for protection of tongue. False teeth to be removed when possible. Cold affusion to head sometimes useful where countenance is turgid. Use of snuff, so as to induce sneezing. In *status epilepticus* inhalation of nitrite of amyl. Where fit is preceded by epileptic aura, application of ligature just above region from which sensation starts, may prevent attack.

During interval:—Improvement of general health necessary. Bromide of potassium in most cases diminishes the frequency and violence of the attacks; sometimes curative; may require to be continued for a long time, 42. Iodide of potassium when origin syphilitic. Belladonna, or atropia, 326. Hypodermic injection of atropine, 314. Quinine, 379, 386. Salts of iron, 380, 390, 394, 405. Salts of zinc, 410, 413, 414. Cod liver oil. Henbane, hop, or Indian hemp, if there be sleeplessness. A full dose of tincture of henbane; or bicarbonate of potash, oz. ½, immediately before expected fit. Nutritious diet, with little meat, milk, raw eggs, wine or beer in moderation. Cold shower bath. Tepid salt water sponge bath. Regular exercise. Chapman's ice bags to spine. Removal of stumps or decayed teeth; or of any other source of irritation, as worms, &c. Circumcision, especially in young boys.

Remedies sometimes recommended:—A long-continued course of corrosive sublimate. Iodide of potassium. Nitrate of silver. Sulphate of copper. Arsenic. Galvanism. Strychnine in small tonic doses. Inhalation of chloroform; of ether; of nitrite of amyl during fit. Tracheotomy.

EPIPHORA.—From 'Επιφέρο, to convey to. Synon. *Lacry* *matio; Weeping.*—A superabundant secretion of tears, so that they run over the cheek. Common in strumous children. May be due to foreign bodies, granular conjunctivitis, &c. To be distinguished from *stillicidium lachrymarum* owing to closure of puncta lachrymalia, or to obstruction of nasal duct.

EPIPHYTES.—From 'Επί, upon; φυτὸν, a plant. Synon. *Phyto-parasites.*—Microscopic vegetable growths, belonging to the class *Fungi cryptogamia.* They are found on the skin and mucous membranes, in the stomach, &c.

The chief vegetable parasites are:—(1) *Microsporon furfur*, found in Tinea versicolor or chloasma. (2) *Microsporon mentagrophytes*, in Tinea sycosis. (3) *Tricophyton tonsurans*, in ringworm. (4) *Achorion Schönleinii* in Tinea favosa or honeycomb ringworm. (5) *Tricophyton sporuloides*, in Plica Polonica. (6) *Oidium albicans*, in aphthæ. (7) *Sarcina ventriculi*, in some stomach diseases. (8) *Cryptococcus Cerevisiæ* or *Yeast Plant*, in the stomach. And (9) *Mycetoma* or *Chionyphe Carteri*, in Fungus Foot of India.—See *Tinea.*

EPISTAXIS.—From 'Επιστάζω, to drop upon. Synon. *Hæmorrhagia Narium; Rhinorrhagia; Bleeding at the Nose.*—Bleeding from the nose is very common in early life, without doing any harm. But it frequently gives rise to anxiety when it occurs in advanced life. If there be tendency to apoplexy, or if patient be afflicted with heart disease, the loss will perhaps prove beneficial. This is not the case when the bleeding sets in during progress of disorders which injure quality of blood; as in renal and hepatic diseases, fever, scurvy, purpura, &c. Exhausting epistaxis may be immediate cause of death in hæmophilia or in leucocythæmia, when approaching a fatal termination.

TREATMENT. Patient to be seated upright. Collars and neckerchiefs to be removed. Holding one or both arms above the head. Cold to neck and back, or over nose and forehead. External compression of nostril with finger. Swabbing nostril with perchloride of iron. Snuffing of alum, powdered matico leaf, tannin, powdered gum. Spray of Richardson's styptic colloid. Injection of alum, or iron alum, or tincture of perchloride of iron in water. Plugging nostril with cotton wool saturated with an astringent. Styptic rods of tannin, 524. Plugging posterior nares by pledget of lint, &c., or by india rubber air bag.

Calomel. Corrosive sublimate, 27. Gallic acid, 103, 104. Ammonio-sulphate of iron, 116. Ergot of rye. Mineral acids with bark, 376. Tincture of perchloride of iron, 101. Turpentine, 102. Digitalis. Mild laxatives, 142, 143. Nitric acid and taraxacum, 147. Nourishing diet: potatoes: watercress: orange or lemon juice.

EPITHELIAL CANCER.—See *Cancer.*

EPIZOA.—From 'Επί, upon; and ζῶον, an animal. Synon.

cto-parasites.—Animal parasites which live upon, or in the ructure of the skin.—See also *Insects, Poisonous.*

The epizoa living on the skin are:—(1) The *Louse* or *Pediculus.*) *Common Flea* or *Pulex irritans.* (3) *Chigoe* or *Jigger*, found Guiana and Brazil. (4) *Ticks* or *Ixodes*, which particularly ach themselves to oxen, sheep, dogs, wolves, and occasionally the human body. (5) *Argades*, which are allied to the ticks, d are met with in parts of Persia. (6) Common *Bed-Bug* or *anthia lectularia.* And (7) the *Harvest-Bug* or *Leptus autum- lis.*—See *Phthiriasis.*

The epizoa found in the skin are:—(1) The *Itch insect* or *arus scabies*, or *Sarcoptes hominis.*—See *Scabies.* And (2) *modex folliculorum* (Owen), or *Acarus folliculorum* (Simon), or *mple mite*, which is chiefly found in the ducts of the sebaceous nds of the alæ of the nose.

EQUINIA.—From *Equus*, a horse. A severe inflammatory otic disease, due to inoculation with morbid fluids generated the horse, ass, and mule.—See *Glanders.*

ERUPTIVE FEVERS.—Continued fevers, with an eruption eradded.—See *Small-pox; Cow-pox; Chicken-pox; Measles; beola; Scarlet-fever; Plague.*

The principal diseases of this class have these common cha- ters:—A variable amount of time elapses between reception poison and setting in of symptoms, called the period of incuba- n; they are accompanied by fever, which runs a defined rse; are attended by an eruption, which goes through a ular series of changes; for the most part affect the individual e, and once only, during life; and they arise from specific tagion. Of all eruptive fevers, scarlatina is probably that ch most frequently occurs a second time.

he following table shows the period of incubation, together h date of eruption and time of its disappearance, in the five f eruptive fevers:—

asease.	Period of Incubation.	Eruption appears.	Where first.	Eruption fades.
let fever	1 to 6 days	2nd day of fever	Sternum	5th day
ll-pox ...	12 days	3rd day of fever	Face and wrists	Scales on 9th or 10th day, fall off on 14th
sles	10 to 14 days	4th day of fever	Root of hairy scalp	7th day
ius	2 to 12 or 14 days	4th to 7th day of fever	Trunk and wrists	14th to 21st day
ioid	10 to 14 or 21 days	7th to 14th day of fever	Abdomen	Successive crops

ERYSIPELAS.—From 'Ερύω, to draw; πέλας, near,—expressive of the tendency of the disease to spread. According to German lexicographers, from 'Ερυθρὸς, red; πέλλος, livid, livid redness. Synon. *Saint Anthony's fire; the Rose.*—A diffused, spreading inflammatory affection of the skin, and very commonly of the subcutaneous connective tissue. There are general phenomena of fever; while the affected part becomes of a deep red colour, hot, painful, and swollen.—It often arises spontaneously, but is also due to absorption of a specific poison. The miasm most readily generated by the assembling together, in one ward, of patients with unhealthy discharges or secretions. Epidemic and contagious.

No portion of the surface exempt from attacks. Integuments of face and head most commonly the seats of *idiopathic* erysipelas—that which arises from internal causes; while *traumatic* erysipelas—that following wounds—commences at seat of injury. In *simple* erysipelas, inflammation superficial; in *phlegmonous* form, subcutaneous connective tissue secondarily involved, and no surface redness, but great swelling and tension, with tallow-like appearance of skin.—See *Cellulitis Venenata.*

SYMPTOMS. A period of incubation, varying from three to seven days. Then chilliness, rigors, sore throat, fever and constitutional disturbance, with burning pain and local signs of inflammation. The part is red, swollen, and tense, and as the inflammation spreads the margin is raised, defined, and serrated, whereas, when it has ceased to extend, the redness shades off gradually to healthy skin. Urine sometimes albuminous: chlorides diminished. Cerebral disturbance, delirium. Nausea, vomiting, diarrhœa. Swelling of the part: if of face, all traces of natural features quite lost.

Death may occur from extension of inflammation to brain or its membranes. Chink of glottis sometimes becomes closed from serous effusion. Failure of vital powers. Erysipelas occurring in cases of diabetes, or especially of renal disease with albuminuria, are almost always fatal. Mortality in England averages about 2000 annually. Poison of erysipelas will give rise to puerperal fever in lying-in women. Mother may suffer from puerperal septicæmia, and child from erysipelas.

TREATMENT. Confinement to bed in a well-ventilated room. Light diet. Cooling drinks. Begin with emetic, which sometimes seem to cut short the attack, or aperient.—Rhubarb and blue pill, 171. Castor oil. Aloes, senna, and magnesia, 150. Compound rhubarb powder, 165. Then carbonate of ammonia, 361, 371. Tincture of perchloride of iron, 392. Chlorate of potash, 61. Quinine. Turpentine. Colchicum. Port wine. Ale or stout. Brandy. Brandy and egg mixture, 17.

Locally:—Fomentations. Poultices of linseed; of yeast; of hemlock. Water-dressing. Lotions of diluted solution of subacetate of lead with laudanum; of solution of permanganate of potash; of carbolic acid—ten grains to each ounce of water; or of sulphite of soda—ten grains to each ounce. Inunction with lard. Dusting with flour: finely ground rice powder. Collodion. Boundary lines to be drawn on sound skin with nitrate of silver or tincture of iodine. Incisions to evacuate pus, or to relieve great tension.

Infantile Erysipelas:—Vigorous wet-nurse. Good milk. Beef tea. White wine whey. Wine and water. Bark.

ERYTHEMA.—From Ἐρυθαίνω, to redden or cause blushing. Synon. *Inflammatory Blush; Efflorescence Cutanée.*—A non-contagious affection of the skin. One of the *Exanthemata*. Characterized by slight superficial red patches, irregularly circumscribed, of variable form and extent. Most frequently seen on face, chest, and extremities.

VARIETIES. *Erythema fugas*, of a fleeting nature, and generally due to some derangement of alimentary canal. *Erythema intertrigo*, sometimes produced by friction between folds of skin, where secretions are not removed by washing. *Erythema pernio*, the technical name for that peculiar inflammation of skin constituting an unbroken chilblain. *Erythema circinatum*, in which the round red patches are slightly raised, and ring-shaped. Not of uncommon occurrence in acute rheumatism. *Erythema læve*, which is developed on lower extremeties when they become anasarcous. *Erythema nodosum*, in which the eruption is mainly on fore part of leg, taking the form of one or more oval raised firm patches, resembling nodes. Most common in young chlorotic females.

TREATMENT. *E. fugax*: regulation of diet. Avoidance of soap. Effervescing citrate of magnesia. Compound rhubarb powder. Pill of aloes and myrrh. Colchicum. Quinine. Compound tincture of bark. Mineral acids. Steel wine. Ammonio-citrate of iron. Pill of carbonate of iron. Subacetate of lead lotions. Glycerine lotions. Veratria ointment, if there be pain. Warm water or vapour baths. Warm fomentations. *E. læve, E. intertrigo*: keep part clean and dry. Apply ointment of zinc or boric acid; dusting with fuller's earth or zinc oxide. Elevation of limb. Puncture of anasarcous limb. Light diet. Cooling drinks,—lemonade.

EUSTACHIAN TUBE DISEASES.—This tube (first described by *Eustachius*), by which the tympanum communicates with the pharynx, is about two inches long. Composed partly of bone, partly of fibro-cartilaginous tissue. It affords an entrance for air into tympanum and an exit for mucus.

1. Obstruction of Tube.—Permanent obstruction produces exhaustion of air in tympanic cavity: consequently a pressure inwards of membrana tympani, a forcing together of chain of bones, pressure on contents of labyrinth, and deafness. Conditions giving rise to obstruction are:—Thickening of mucous membrane of faucial orifice, such as often co-exists with chronic enlargement of tonsils; hypertrophy of adenoid tissue in the naso-pharynx, closing the meatus of the Eustachian tubes. A collection of viscid mucus, or stricture of middle part of tube; and thickening of mucous membrane, stricture of bony walls, or deposit of fibrin at tympanic opening.

SYMPTOMS. The entrance of air into tympanum, during act of deglutition, can, in normal state, be distinctly heard by the otoscope,—an elastic tube, eighteen inches long, having its ends tipped with ivory. One end being inserted into ear of patient, and the other into that of surgeon, the patient is directed to swallow saliva with mouth and nose closed. If tube be pervious, at the moment the patient has a sensation of fulness in ear, practitioner will detect a faint crackling sound, produced by slight movement of membrana tympani. Where mucous membrane of the tympanum is thickened, a gentle flapping sound will be heard instead of faint crackling. If the otoscope fail to reveal any sound during deglutition, if no sound be heard when a forcible attempt at expiration is made with mouth and nose tighly closed, and if no other cause can be found for dulness of hearing, then it may be presumed that the tube is obstructed (Toynbee).

TREATMENT. Attention to general health. Nourishing diet; warm clothing; exercise in open air; sea bathing. Cod liver oil, 389. Iodide of iron, 32. Iodide of potassium, and bark, 31. Corrosive sublimate, in bark, 27. If tonsils be enlarged, or faucial mucous membrane swollen, application of solid nitrate of silver; swabbing with tincture of iodine. Excision of tonsils and adenoid growths. Introduction of Eustachian catheter. Puncture of membrana tympani in irremediable obstruction. Inflation by Politzer's instrument during the act of swallowing with mouth and nostrils closed.

2. An Open Condition of Tube.—The normal condition of this canal is that of closure by apposition of its walls. It acts like a valve, which is opened by muscles of palate and pharynx during deglutition. When permanently open,—complaint made of buzzing and other noises in ear. Uneasiness about throat. Occurs during attacks of catarrh: in irritable conditions of throat. Cure results as cause subsides.

EXOPHTHALMIC GOITRE.—From 'Eξ, out; ὀφθαλμὸς, the eye. Protrusion of the eye-ball (proptosis oculi), accompanied with goitre.—See *Bronchocele; Graves' Disease.*

EXOPHTHALMOS.—From 'Eξ, out; ὀφθαλμὸς, the eye. Synon. *Procidentia Bulbi Oculi; Ophthalmocele; Proptosis Oculi; Goggle-eyed.*—A protrusion of the eyeball, so that the lids cannot cover it. Met with in some forms of anæmia.—See *Graves' Disease; Anæmia.*

EXPECTATION OF LIFE.—By this term is meant,—the mean number of years which, at any given age, the members of a community, taken one with another, may expect to live. An easy rule has been established for determining the value:—The expectation of life is about equal to two-thirds of the difference between the age of the individual and 80. Thus, a man is 20 years old; 60 is the difference between this age and 80; two-thirds of 60 are 40, and this is the sum of his Expectation. By the same rule, a man of 60 will have a lien on life for nearly 14 years; a child of 5 for 50 years (Willich). Female Expectation is one or two years longer than male. The results thus obtained correspond closely with those to be deduced from Dr. Farr's English Life Table, which was constructed with great care from an immense mass of records, and later revised by Dr. W. Ogle.—See *Whitaker's Almanack.*

FALLOPIAN TUBE, DISEASES OF.—The tube is subject to inflammation, to cystic degeneration and to tumours.

(1) **Inflammation.**—Synon. *Salpingitis; Salpingo-öophoritis.*—Closely linked with inflammation of the ovary. Whether the tubal disease is primary or secondary to the ovarian inflammation is uncertain. A distinct tubercular form is known.

(2) **Cystic Degeneration.**—After a time inflammation of the tube causes obstruction, the ostium is sealed up, the uterine end closed by swelling of the mucous membrane. The tube then forms a cyst which may contain a large quantity of clear fluid (*hydrosalpinx*), or pus (*pyosalpinx*), sometimes the cyst is filled with blood (*hæmatosalpinx*), but this condition is seldom due to inflammation alone. An old hydrosalpinx may coalesce with an ovary affected by inflammatory cystic degeneration and form a *tubo-ovarian cyst.*

SYMPTOMS. Severe and long-standing pelvic pains aggravated at period, with menorrhagia, and the presence of a fluctuating swelling on the side of the uterus; if there be a swelling on both sides, the evidence of cystic tube will be all the stronger. Broad ligament and ovarian cysts, in their earlier stages, are not accompanied by the above symptoms. Frequent rise of temperature indicates pyosalpinx or pelvic peritonitis around a hydrosalpinx. This complication very frequent; may occur repeatedly in the course of years, with intervals of freedom from all symptoms.

TREATMENT. Rest in bed, poultices to iliac fossa. Hot water, vaginal douches, 110°. Glycerine tampons. Saline aperients. Great care of health, especially at "periods." In aggravated cases, when attacks of pelvic pain recur, the question of removal of the cystic tube should be raised. Avoid making a chronic invalid of the patient. Puncture of cyst through the vagina.

In extra-uterine pregnancy the fœtus may be encysted in the tube.

(3) **Tumours.**—Very rare. Primary cancer and papilloma both been recorded. Occur near menopause, and set up symptoms at first resembling those of hydrosalpinx and pyosalpinx, rather than those of incipient cystoma of ovary or broad ligament.

TREATMENT. Removal of the tube.

FARCINOMA OR FARCY.—From *Farcio*, to stuff or cram.—A severe contagious disease; accompanied with a pustular eruption or strings of enlarged lymphatic glands (Farcy-buds), which soon suppurate, and septic fever. Arises from inoculation with morbid matter generated in the horse, ass, or mule.—See *Glanders*.

FATTY DEGENERATION.—The designation of *fatty degeneration*, or *fatty metamorphosis*, is given to a certain class of cases which during life are marked by anæmia with great prostration; and which, after death, are found to be distinguished by the more or less perfect transformation into fat of various important textures, but especially of muscular fibres of the heart.

There is no connection between the tendency to form fat around organs, or the production of obesity, and the change of tissue into fat. In former case there is a condition which may prove preservative, if confined within due limits. In latter, is to be recognized a process of decay and death, the result of some defect in nutritive functions.

Amongst the causes of this retrograde metamorphosis are old age, intemperance, inactivity, and cessation of function. Heart, lungs, brain, liver, kidneys, uterus and arteries may suffer from it. Atheroma of arterial walls is a form of fatty degeneration: and arcus senilis is caused by same change occurring in cornea. When important organs are involved, it may lead to gradual or sudden death; in latter case, owing to rupture of organs.—See *Cardiac Atrophy; Fatty Degeneration of Kidney; Hepatic Degeneration*.

FEBRICULA.—Dim. *Febris*, a fever. Synon. *Ephemeral Fever*—a mild form of fever.—See *Simple Continued Fever*.

FEVERS.—From *Ferveo*, to burn. Synon. *Febris; Pyrexia.*—Fever may be described thus:—After a preliminary stage of languor, weakness, defective appetite, and some degree of chilliness or shivering, there is preternatural heat of body, acceleration of pulse, great muscular debility, increased waste of tissue, and disturbance of most of the functions. This morbid state accompanies many diseases as one of their phenomena—*symptomatic* fever; but under certain circumstances we meet with *idiopathic* fevers, which are probably independent of any local lesion.

A certain number of these form a well-defined group, having the following characters in common:—1. A definite cause and duration. 2. They have their origin in a poison introduced into the system from without, which poison (probably an organic germ) increases during the fever, and constitutes a contagium. 3. They are therefore contagious in various degrees. 4. They occur as a rule only once during life. 5. They have a characteristic cutaneous eruption.

They are usually subdivided into the *continued* and the *eruptive* fevers, but there is no marked distinction between them. They are as follows :

I. Continued Fevers.
  1. *Simple Fever*, or *Febricula.*
  2. *Typhus Fever.*
  3. *Typhoid*, *Enteric*, or *Pythogenic Fever.*
  4. *Relapsing*, or *Famine Fever.*
  5. *Yellow Fever.*

II. Eruptive Fevers.
  1. *Small-pox*, or *Variola.*
  2. *Cow-pox*, or *Vaccinia.*
  3. *Chicken-pox*, or *Varicella.*
  4. *Measles*, or *Morbilli.*
  5. *Rubeola*, or *German Measles.*
  6. *Scarlet Fever*, or *Scarlatina.*
  7. *Dengue.*
  8. *Plague.*
  9. *Syphilis* may be added.

The following groups are distinguished not only by a different type of fever, but by the fact that the poison is of vegetable origin, and is not reproduced in the system :—

III. Intermittent Fever, or Ague.
IV. Remittent Fever.
  1. *Simple Remittent Fever.*
  2. *Malignant Remittent Fever.*

For further information concerning any particular fever, reference must be made to the disease as it is arranged in alphabetical order.

FISTULA IN ANO.—From *Fistula*, a pipe or reed. A fistulous passage by side of rectum, the result of abscess. Three forms:—

(1) *Complete*, where the sinus extends from an opening through skin external to anus to an internal opening through mucous membrane into bowel.
(2) *Blind external*, when bowel not perforated.
(3) *Blind internal*, when there is an opening in the bowel, but no external aperture.

SYMPTOMS. Uneasiness about anus, pain during defæcation or exercise. Discharge of pus or sanies from or close to anus. Ill-health, depression, a small aperture (often hidden by a small external pile) marks external orifice of fistula. If a probe be passed into it whilst the index finger is in the rectum the internal orifice can be found, sometimes with difficulty, if the fistula burrows above the inner orifice.

Cases of blind internal fistula show symptoms as in ulcer of anus: a hard lump felt in anus, which discharges freely. Always make sure that no stricture or cancer of rectum exists in any case of fistula.

TREATMENT. In otherwise healthy patient clear bowel overnight by dose of castor oil, giving enema in morning. Pass a director through fistula into bowel, and hook down point of probe till it protrudes from anus. Run a bistoury along director, and cut through all the tissues between it and anus.

Search for diverticula from fistula, and slit them all up if they are found. Scrape exposed channel of fistula with bistoury, and dress with iodoform wool. Castor oil or enema on fourth day; dress carefully, so that deepest parts heal first. Other plans not so good.

In cases of phthisis or very nervous subjects, elastic ligature to be tightened daily till parts are cut through; does not keep patient in bed.

In albuminuria or diabetes dilate external orifice of fistula with sponge tent, and then wipe out track with weak carbolic lotion.

FLAT FOOT.—Synon. *Spurious Valgus; Splay Foot.*—A sinking of the tarsal arch, from relaxation of the supporting ligaments. Walking is rendered awkward, slow, and somewhat painful. In confirmed cases, lameness and deformity. Occasionally associated with talipes valgus (see *Club foot*). May arise from constitutional debility with too much standing. Often to be remedied, in slight cases, by friction, bandaging, and improvement of general health. The sole of boot ought to be considerably thicker on inner than outer side. An apparatus to support ankle and invert foot (valgus-plate).

FLATULENCE.—From *Flo*, to blow up. Synon. *Tympanites; Meteorism; Wind Dropsy.*—An accumulation of gas in the intestines occurs as an idiopathic disorder, or it may be symptomatic of some other affection. The gas is generally derived from the decomposition of imperfectly digested food; or it may perhaps be a secretion from the gastric or intestinal mucous membrane: or it will be merely air that has been swallowed. In the eructation or belching due to dyspepsia, the gas sometimes has the offensive odour of sulphuretted hydrogen. Sometimes simulates pregnancy, especially in women anxious to be pregnant (*Pseudocyesis*).

(1) *Idiopathic form*:—The flatus usually most abundant a few hours after food; little or no derangement of general health. Nervous and hysterical women especially liable to it. Often

produced by green vegetables, pea soup, tea, or any food which quickly undergoes fermentation.—*To be cured by*:—Avoidance of vegetables, soup, beer, tea. Creasote, 41. Vegetable charcoal, 98. Mineral acids with nux vomica, 376. Quinine and nux vomica, 387. Strychnine and steel, 408. Steel and pepsine, 394. Pepsine, 420. In tympanites from intestinal atony and weakness of abdominal muscles, electricity very useful.—*To give immediate relief when distress from flatulence is urgent*:—Carbonate of magnesia, opium, and ether, 62. Ether and tincture of castor, 85. Ammonia and chloroform, 86. Dill water. Caraway water. Assafœtida. Cinnamon. Spirit of nitrous ether. Cajuput oil. Spirit of nutmeg. Spirit of juniper. Compound tincture of cardamoms. Ammoniated tincture of valerian. Tincture of ginger. Hot brandy and water with spice. Peppermint lozenges. Castor oil and rue enema, 189. Castor oil and turpentine enema, 190. Turpentine stupes. Sinapisms. Linseed poultices.

(2) *Symptomatic flatulence*:—An accompaniment of indigestion; inflammatory disorders of stomach or bowels; intestinal obstruction; organic diseases of liver; peritonitis; typhoid fever; uterine or ovarian irritation; gout, &c.—*Remedies*:—Of a variable nature, according to the cause. Enemata of turpentine in gruel. If quantity of flatus be excessive, its escape may be aided by passage of stomach-pump tube for several inches up rectum, or the inflated bowel may be aspirated by a fine needle passed through abdominal wall.

FOREIGN BODIES IN AIR-PASSAGES.—Foreign matters may pass into larynx, trachea, or bronchi of children,—very rarely of adults. They may enter air-passages from *within* the body:—Worms have passed upwards from stomach, by œsophagus, into larynx. Tubercular deposit, or pus, now and then, makes a way by the neck. Retro-pharyngeal abscess sometimes bursts into larynx or trachea. In attempting to repress vomiting, matters from the stomach have entered the larynx. Portions of necrosed bone occasionally work a passage into bronchi or trachea.—Those bodies which are accidentally introduced from *without* are often remarkable for their size, considering the smallness of the chink of glottis. The most common are portions of toys, seeds or beans, fruit stones, buttons, pins, coins, beads, marbles, pebbles, nails, fish-bones, masses of meat, sugar-plums, &c. Animal and vegetable substances imbibe moisture and swell; sometimes they disintegrate and are expelled piecemeal. An ear of grass has been known to pass through chest-wall.

SYMPTOMS. The entrance of a foreign solid body from without usually occurs during a sudden and strong inspiration; it at once causes violent spasmodic cough, dyspnœa, a sense of impending suffocation, perhaps immediate death. In a few minutes, symptoms lessen in severity; cough and dyspnœa return at intervals. If the body remain in *larynx*, there will be harassing and suffocative cough; loss of voice, or inability to speak above a whisper; probably pain in swallowing; tenderness; noisy hissing respiration, with more or less dyspnœa. If it descends into *trachea* it is seldom stationary; can sometimes be felt to rise and fall by application of hand externally; the change in position gives rise to severe spasmodic attacks of dyspnœa; sometimes a flapping or valve-like sound, owing to foreign body being forced against rima glottidis in expiration. The substance often passes on into one of the *bronchial tubes*,—most frequently the right, being directed to this by the bronchial septum. Auscultation and percussion will then show that air does not enter the obstructed lung at all, or only incompletely: diminution or loss of resonance and of respiratory murmur. The fear of bronchitis and pneumonia to be remembered.

When fluids enter the larynx they induce a sense of choking, with convulsive and suffocative cough, which usually suffices to expel them; if very abundant they may cause sudden death.

TREATMENT. If the body be at entrance of larynx, or between the vocal cords, it may perhaps be seen by laryngoscope and seized with polypus forceps. This failing, child should be placed with head downwards, and slapped smartly and quickly on the back. Emetics and sternutatories can be tried: they are generally useless.

When the body remains in larynx, laryngotomy should be performed as early as possible: when it has descended lower, and perhaps always in young children, trachea ought to be opened. The substance may be ejected through glottis, or through artificial opening, directly the latter is made: should this not take place, patient's body must be inverted, and a few smart taps made to dislodge the substance. Inversion rarely followed by bad consequences, because patient will breathe through artificial opening: hence the coin, bean, or whatever it may be, will not give rise to that severe spasm of the glottis on touching it which it would otherwise do. Perhaps this spasm of glottis might be overcome by inhalation of chloroform, without opening trachea. If tried, the surgeon should be prepared to perform tracheotomy immediately, in case of necessity.—Where extraneous body resists all efforts to remove it, the wound in the trachea should be kept open to favour expulsion subsequently. When operation is successful, incision should be immediately closed by strips of plaster or by sutures.

FRAMBŒSIA.—From *Framboise*, a raspberry. Synon. *Anthracia Rubula; Lepra Fungifera; Pian; Yaws.*—A tubercular skin disease, said to be common in Africa, parts of America, and West Indies. Without precursory symptoms, portions of skin about face, scalp, axillæ, or genital organs are found covered with small dusky-red spots; which gradually become converted into larger tubercles, isolated at summits but collected together at bases, and resembling raspberries or mulberries in colour and form. Tubercles generally hard, covered with dry scales, sometimes inflamed. If inflammation spreads, ulceration sets in ; a yellow sanious discharge resulting, which forms scabs. Disease continues for years, or even for life.

GALACTORRHŒA.—From Γάλα, milk ; ῥέω, to flow. Synon. *Superabundant Secretion of Milk.* An excessive secretion of milk in nursing women. Owing to this excess, the milk continually oozes away ; several pints may thus escape in course of twenty-four hours, keeping patient's clothing wet, and weakening her system. Hence result, anæmia ; hysteria ; dyspepsia ; low spirits ; and even phthisis or dropsy. Milk always found poor in quality, after a time. Often ceases with return of menstruation.

TREATMENT. Infant to be weaned. Compression of breasts, by strapping with belladonna plaster, or by bandaging the entire thorax round with flannel. An opening must be made for the nipples, and the milk be collected or conducted away. Atropia or belladonna, iodide of potassium, colchicum, ergot, chloral, bromides, camphor, aperients, &c., 427. Nourishing food. Removal of uterine or ovarian disease.

GALL-STONES.—Synon. *Chololithus ; Biliary Calculi.* — More frequently formed in gall-bladder than in substance of liver—in branches of hepatic duct. Solitary calculi when found in gall-bladder are globular or oval or pear-shaped ; associated stones usually have numerous polished facets, the result of pressure and mutual attrition. Gall-stones formed in branches of hepatic duct are small, rough or tuberculated, and of a dark colour—like black peppercorns. Gritty, sand-like deposits (biliary gravel) are met with in excretory passages of liver ; consisting of minute calculi, or of a powder made up of cholesterine and cholochrome. Ingredients of gall-stones,—Cholesterine, chiefly ; cholochrome or colouring matter ; earthy and alkaline salts ; phosphate and carbonate of lime and magnesia ; together with biliary and fatty acids.

SYMPTOMS. Depend on situations in which they are present. In branches of hepatic duct small calculi may give rise to dull pains about liver, perhaps shooting to shoulder ; to symptoms of intermittent fever ; gastric disturbance with nausea. As they usually only cause temporary obstruction to flow of small quantity of bile, there is no jaundice.

Hepatic duct rarely blocked up by a concretion. When it is, symptoms consist of intermittent pains ; attacks of vomiting ; jaundice ; and enlargement of liver owing to escape of bile from all the ducts being prevented. Fatal rupture of duct has occurred.

In gall-bladder calculi may be present without producing morbid derangements. Rarely they set up catarrhal or plastic inflammation ; with pains about epigastrium, right shoulder, and hip. Loss of appetite; indigestion; constipation. Ulceration and perforation have occurred.

When calculi of any size leave the bladder and enter cystic duct, they cause well-marked symptoms—*hepatic* or *biliary* or *gall-stone colic*. Excruciating pain. Great tenderness of right hypochondriac and epigastric regions. Nausea and vomiting. Constipation and flatulence. Perhaps rigors. Slow pulse. If stone recede into bladder, symptoms cease; if it remain impacted, dropsy of gall-bladder may result, and perhaps ulceration or gangrene of duct; if it be forced onwards into common duct, there is a sense of partial relief; though pain returns as duodenal orifice is reached. If common duct be long occluded, jaundice must ensue, as there is no outlet for the bile. Where obstruction is permanent, jaundice increases; liver progressively enlarges; gall-bladder gets much distended. Ultimately, death occurs; unless the stone be forced into bowel, or unless it induces adhesive inflammation and gets into intestines or through abdominal walls, after ulceration and perforation have taken place. In event of passing into intestines, care must be taken that it escapes per anum; otherwise it may form a nucleus for a concretion, and produce complete obstruction at the end of a few months.

TREATMENT. *Relief of biliary colic:*—Hot water, or vapour, or air bath. Fomentations with decoction of poppy-heads and chamomile flowers. Linseed poultices. Poultices, with application of belladonna and opium, 297.—Morphia, chloroform, and Indian hemp, 317. Subcutaneous injection of morphia, 314. Opium and belladonna, 340, 344. Opiate enemata, 339. Inhalation of chloroform, or ether, or of a combination of both. Ice. Copious draughts of hot water containing bicarbonate of soda. Food to consist of fluids, chiefly milk. Cholecystectomy and cholecystotomy are legitimate operations only for those skilled in abdominal surgery.

Expulsion of calculus and prevention of further formation:—Castor oil. Seidlitz powders, 169. Phosphate of soda and aloes, 149. Sulphate and phosphate of soda, 148. Pill of colocynth and hyoscyamus. Carlsbad waters, Vichy, Marienbad, Kissingen, Ems; or Bath, Cheltenham, or Llandrindod in this country. Regulation of diet. Moderate in starch and fat. Active exercise. Bloodletting and emetics to be avoided. Mixtures of ether and turpentine to dissolve calculi, useless.

GASTRALGIA.—From Γαστὴρ, the stomach; ἄλγος, pain. Synon. *Dyspepsodynia; Cardialgia; Heartburn.*—An unpleasant burning sensation in the stomach and gullet, coming on in paroxysms. A common symptom in indigestion.

TREATMENT. White bismuth, 65. Carbonate of magnesia, 62. Solution of potash, 69, 73. Bicarbonate of soda. Carbonate of ammonia. Saccharated solution of lime, 14. Lemon juice. Nitric acid. Dilute nitro-hydrochloric acid 378. Hydrocyanic acid, 86, 377. Phosphoric acid. Ammonio-citrate of iron, 401, 403. Arsenic. Pepsine, 420.—See *Dyspepsia.*

GASTRIC CANCER.—From Γαστὴρ, the stomach.—Generally primary, of the columnar epithelioma type. Most frequent seats, —pyloric aperture; cardiac orifice; space along lesser curvature. More common in men than women: rare before fortieth year. Few cases survive beyond two years from commencement of symptoms.

Symptoms. Very variable: the most constant being emaciation. Pain in epigastrium, of a burning, lancinating, or gnawing character; increased by food and pressure. Retraction of abdominal wall. Eructations of fœtid air. Nausea: frequent vomiting of ingesta and glairy mucus, of bloody sanious fluid, of dark grumous matter having an appearance of coffee-grounds. If disease of cardia, a pouch formed at lower end of œsophagus in which food accumulates, returning undigested, together with mucus. If disease of pylorus, food retained longer and more changed by gastric juice. Constipation. Debility. Emaciation, which becomes extreme. Occasionally gradual emaciation with little pain or vomiting. Pulsating tumour, when mass lies over aorta: or a firm painful tumour in some part of epigastric, umbilical, or hypochondriac region. Cancerous cachexia.—Perforation may occur, with escape of contents of stomach into peritoneum. Or perforation, with communication between stomach and outside of abdomen; between stomach and colon; between stomach and duodenum; or between stomach and pleural cavities, lungs, or pericardium; or with formation of abscess between stomach, liver, and diaphragm.

Treatment. Opium and belladonna, 344. Subcutaneous injection of morphia, 344. Opiate suppositories, 341. Iodoform, 338. Bismuth and soda, 65. Vegetable charcoal. Hydrochlorate of ammonia (gr. 15 every two hours), to relieve nausea and pain. Inhalation of small quantities of chloroform or ether, 313. Cod liver oil.—*Locally:* Wet compress. Belladonna and opium, 297. Linseed poultices. Hemlock poultices. Fomentations. Ointment of aconitina, cautiously. Ointment of atropia.—*Diet:* Milk: cream; asses' milk. Raw eggs. Essence of beef, 3. Nutrient enemata, 21, 22, 23.

GASTRIC ULCER.—From Γαστὴρ, the stomach. Synon. *Simple, Chronic, or Perforating Ulcer of Stomach.*—More frequent in women than men, and in poor than rich. Very rare before puberty. The ulcer is usually round or oval; seldom smaller than a fourpenny piece, or larger than a crown piece; sometimes with thickened edges, sometimes as if punched out of mucous membrane; and mostly seated on posterior surface, lesser curvature, or pyloric pouch.—May be fatal by hæmorrhage, perforation, or exhaustion.

Symptoms. Liable to some variety. Pain in epigastrium, and over lower dorsal vertebræ: increased by food, especially by warm fluids and sugar. Tenderness over small spot in epigastrium. Violent aortic pulsations. Eructations of sour fluid: nausea and vomiting. Loss of flesh. Amenorrhœa in young women, particularly if there be hæmorrhage. In favourable cases pains diminish as ulcer gradually heals: complete recovery. When a large vessel eroded profuse hæmatemesis.

Where perforation happens, which may occur after a large meal, and sometimes especially in young women, with very slight antecedent symptoms:—Violent pain, spreading from epigastrium all over belly. Tympanites. Great anxiety. Rapidly increasing prostration. Painless collapse in a few hours; death. This is when adhesions have not previously been formed. In chronic ulcer adhesions may prevent extravasation into the peritoneal cavity, and may lead to fistulous communications or to abscess.

TREATMENT. *For relief of pain.*—Extract of opium (gr. 1 every six or eight hours). Opium and belladonna, 344. Henbane and Indian hemp, 337. Subcutaneous injection of morphia, 314. *For heartburn or gastritis*:—Bismuth and soda, 65. Bismuth and kino, 112. Powder of kino and opium. Nitrate of silver. Oxide of silver. Oxalate of cerium. Bicarbonate of potash, ammonia, and aconite, 67. Bromide of ammonium, 37. Iodide of potassium. Citrate of ammonia and hydrocyanic acid, 362. Steel and ammonia, 401. Steel and citrate of potash, 403. Iron alum, 116. *To prevent constipation.*—Carlsbad salts. Castor oil. Simple enemeta, 188.—*Locally*: Hot linseed poultices. Fomentations. Turpentine stupes. Sinapisms. Blisters. Ice in a bladder.—*Great care as regards diet*:—Only small quantities of food at a time. Gruel, or arrowroot, with milk. Saccharated solution of lime and milk, 14. Iced milk. Wenham lake ice. In severe cases, complete rest of stomach: nutrient enemata, 21, 23. Subsequently,—White fish. Light puddings. Poultry. Weak brandy and water. *Avoidance of*:—Sugar. Beer. Wine. Coffee. All indigestible foods.—Great caution during convalescence.

When severe *hæmatemesis* occurs, complete abstinence from food, nutrient enemata, ice to epigastrium.—See *Hæmatemesis*.

If *perforation*—opium freely to arrest all movements of stomach so as to limit extravasation of contents and permit of adhesion.

GASTRITIS.—From Γαστήρ, the stomach; terminal *-itis.*—Several important affections of the stomach, more or less closely connected with inflammation, are included under this head.

1. Acute Gastritis.—Synon. *Inflammatio Ventriculi.*—Acute inflammation of mucous membrane of stomach seldom or never arises idiopathically. A frequent result of poisoning by mineral acids, caustic alkalies, arsenic, &c. Sometimes produced by swallowing boiling water, excessive doses of antimony, or use of mustard emetics.

SYMPTOMS. In gastritis due to an irritant poison,—increasing burning pain in epigastrium, aggravated by pressure. Distressing nausea; violent retchings. Accelerated pulse and breathing. Great thirst: desire for cold drinks, which are vomited immediately. Constipation. Scanty and high-coloured urine. Extreme prostration sets in quickly. Commonly death from exhaustion.—In exceptional cases, early symptoms very slight. Disease may not be suspected until a few hours before death.

TREATMENT. Purgative enemata, 188. Nutrient enemata, 21, 22, 23. Free sucking of ice. Opium and belladonna, 344. Opiate suppositories, 340. Subcutaneous injection of morphia, 314. Linseed poultices. Poppy head fomentations. Mucilaginous drinks: iced milk.—*Avoidance of:* Emetics. Stomach pump.

During convalescence:—Great care as to diet. Small quantities, at short intervals, of farinaceous substances and broths. Milk: cream. Raw eggs. Ice.

2. Gastric Catarrh.—Acute gastric catarrh, common in scarlet fever, giving rise to the vomiting usually attending its onset, met with also in other acute diseases. May be caused by irritating food, or by alcohol, or by exposure to cold.

SYMPTOMS. Epigastric pain, especially just after food, with tenderness. Nausea, vomiting of mucus and of bile; furred tongue; anorexia; severe headache; depression.

Catarrhal affections of stomach, when slight, usually spoken of as "bilious attacks."—*Symptoms* are those of indigestion: furred tongue, oppression at epigastrium, vomiting of bile, giddiness, "sick headache."—*Remedies* consist of rhubarb, ipecacuanha, mercury and chalk. Seidlitz powders. Meagre diet. Soda water. Ice.

Severe examples of gastric catarrh sometimes spoken of as "gastric fevers."—Chief *symptoms* are heat of skin; quick and full pulse; vomiting, with epigastric pain; scanty urine loaded with lithates. Superficial ulceration of mucous coat may result.—*Remedies* are rest, low diet, demulcent drinks, mild aperients, effervescing salines. An emetic of ipecacuanha at commencement. Hot fomentations. Poultices. Turpentine stupes.

3. Chronic Gastritis. *Chronic Gastric Catarrh.*—A comparatively mild disorder, unless of long duration. May produce thickening and induration of coats of stomach, narrowing of pylorus, or ulceration perhaps going on to perforation.

Chronic catarrh or mucous flux may succeed a bilious attack, or arise independently. Often coexists with chronic bronchitis, hooping cough, phthisis, and pulmonary emphysema. There is congestion of capillary gastric vessels, with excessive secretion of glairy mucus.

SYMPTOMS. Anorexia. Tenderness at epigastrium and sternum. Pain and sickness after meals. Slowness of digestion.

Gastrodynia. Pyrosis. Disordered bowels. Often a craving for food; only a small quantity can be taken without sense of oppression, vomiting, &c.—*Remedies* are such as restrain secretion of mucus and restore tone of stomach. Iron and nux vomica. Sulphite of soda, 48. Bismuth, 65, 112. Kino and logwood, 108. Iron alum, 116. Bichloride of mercury with bark or iron. Tannin lozenges. Aromatic sulphuric acid. Calomel (gr. 5), if there be constipation. Milk and saccharated solution of lime, 14. Arrowroot. Gruel. Bread and milk. White fish. poultry. Sherry and water. Soda water.—See *Dyspepsia*.

4. Induration of Pylorus.—Synon. *Fibroid Infiltration of Pylorus; Plastic Linitis; Cirrhotic Inflammation.*—Consists of an abnormal development of fibrous tissue in sub-mucous connective tissue about pyloric portion of stomach. As a consequence there is stricture, perhaps with dilatation of stomach and hypertrophy of muscular coat.

SYMPTOMS. Resemble those produced by cancer, save that they extend over a longer space of time. Emaciation and progresssive debility. Pyrosis. Sickness. Constipation. Mental depression. Appetite may be ravenous: a large meal causes great suffering, as food tries to pass through pylorus. Vomited matters may look like yeast, and contain sarcinæ or torulæ: often consist only of partially digested food. Indurated pylorus can be felt, like a tumour, through abdominal walls. Aortic pulsation. Disturbed sleep. Prostration. Death from inanition; though by strict attention to diet, life may often be prolonged for some years.

TREATMENT. Bichloride of mercury in small doses. Iodide of potassium. Iodide of ammonium. Hydrochlorate of ammonia. Opium. Belladonna. Belladonna plaster. Wet compress. Cod liver oil. Liquid food,—milk. cream, raw eggs, soups, wine. Nutrient enemata. Warm clothing. Forcible dilatation (Loreta's operation).

5. Dilatation of Stomach.—Generally due to some affection of pylorus causing contraction, so that food is impeded from passing into duodenum. Dilatation goes on slowly and steadily, until stomach comes to occupy a large portion of abdominal cavity. Occasionally acute or rapid without obvious cause.

SYMPTOMS. Stomach-cramp, heartburn, water-brash. flatulence. constipation, and sometimes attacks of vomiting. Appetite may be voracious. Usually periodical vomiting, ejected matters very large in quantity, intensely acid, often resemble yeast: microscopically examined, sarcinæ ventriculi are found, and sometimes the yeast fungus—Torulæ cerevisiæ. These vegetable organisms probably result from long detention of food in stomach.

TREATMENT. Regulation of diet: unfermented or aërated bread. Food not to be too limited, where appetite is large. Formation of parasites to be checked by sulphite of soda, 48. Hyposulphite of soda. Washing out stomach with Vichy water, or weak alkaline solution, by means of stomach-pump or syphon tube.—For relief of other symptoms, see *Gastralgia; Gastrodynia; Pyrosis; Dyspepsia.*

GASTRO-COLIC FISTULA. — A communication between the stomach and colon takes place with greater frequency than between stomach and duodenum. More commonly due to cancerous than simple ulceration. Stomach and colon not always closely adherent: a cavity may intervene, as if a mass of cancer or tubercle had connected the two viscera, and been gradually hollowed out.—The *symptoms* are chiefly fæcal vomiting, and expulsion of undigested food with the stools.

GASTRO-CUTANEOUS FISTULA.—A communication between the stomach and outside of abdomen. May result from suppuration in abdominal wall; from wounds; from long-continued pressure, voluntarily produced by hysterical women; or from simple or malignant perforating ulcer of stomach, this viscus first contracting adhesions with peritoneum. In either case it is almost impossible to close the opening. A plug must be worn to prevent escape of contents of stomach.

GASTRODYNIA.—From Γαστὴρ, the stomach; ὀδύνη, anguish or pain. Synon. *Spasmus Ventriculi; Cramp in the Stomach.*—Severe pain in the region of the stomach, often extending through to the angle of the left scapula. May occur in connection with organic disease of stomach, or from simple indigestion.

TREATMENT. Subnitrate of bismuth. Carbonate of bismuth. Solution of citrate of bismuth and ammonia. Bismuth lozenges. Mineral acids. Preparations of iron. Oxide of silver. Oxalate of cerium. Morphia. Hydrocyanic acid. Wood charcoal. Creasote. Arsenic. Quinine. Purified oxide of manganese from 5 to 15 grains thrice daily on an empty stomach. Aloes. Blisters to epigastrium. Sinapisms. Belladonna, chloroform and camphor liniments. Linseed poultices. Wet compress. See *Dyspepsia; Pyrosis.*

GENERAL PARESIS.—From Πάρεσις, want of strength, from παρίημι, to relax. Synon. *General or Progressive Paralysis of the Insane.*—See *Insanity.*

GLANDERS.—Synon. *Equinia; Farcinoma; Farcy.*—A malignant febrile and contagious disease; due to a specific poison received from a glandered horse, ass, or mule. There is high fever rapidly becoming adynamic, with red dry tongue. Pustules form on the skin, which burst, and leave a spreading ulcer with offensive discharge. The mucous membrane of the nose and larynx is inflamed and ulcerated. The patient usually dies. Glanders and farcy are essentially identical, both having their origin in the same poison. But when the effects of the morbid agent are especially manifested in the nasal cavities, the disease is known as *glanders;* while, when the lymphatic system suffers, it is called *farcy.*

TREATMENT. *Prophylactic :* — Cauterization of inoculated tissue. Sulphite of soda or magnesia, 48.

Curative :—Sulphurous acid. Sulphite of soda or magnesia, 48. Iodide of potassium, grs. 10 to 15 thriee daily. Bark. Quinine. Arsenic. Strychnine. Carbonate of ammonia. Disinfectant washes to nostrils and ulcers. Creasote injections. Vapour baths. Stimulants. Nourishing food. Pure air. Abscesses to be opened.

GLAUCOMA. — From Γλαυκός, sky-blue. — A term formerly applied to opacity of the lens. Now used arbitrarily to denote a form of blindness attended with disorganization of the various tissues of the eyeball. The symptoms are the result of excessive intra-ocular pressure, this being due to an increase in quantity and firmness of the vitreous humour (Hulke). Glaucoma peculiar to middle life and old age : its occurrence sometimes foreshadowed by quickly increasing presbyopia.

SYMPTOMS. The disease may be *acute* or *primary*, when the glaucomatous changes take place rapidly, and quickly end in loss of vision. Attack perhaps commences suddenly during night, with severe throbbing pain in one eye and temple. Pain continues ; on following morning, sclerotic found discoloured and congested. Iris becomes of a dusky hue, and motionless : cornea gets dim : pupil widely dilated, and sometimes of an irregular oval shape : eyeball felt to be unnaturally hard. Objects or lights surrounded by prismatic colours. Sometimes complaint made of bright flashes of light darting before the eye. Occasionally there is slight temporary improvement, though blindness subsequently results. Both eyes affected ; disease usually commences in one a few days before the other.

In *chronic* or *secondary* glaucoma, same symptoms ; but comes on insidiously, with much less pain, as a consequence of previous obvious mischief. Morbid changes spread over many months. Their sequence seems to be as follows :—First, in retina and choroid ; going on, perhaps, to serous effusion between these two coats, which causes a bulging forwards of lens and iris, by pressing from behind upon vitreous body. Then, congestion and inflammation of iris and cornea. Last of all, opacity of lens, as a consequence of its deranged nutrition (Dixon).

Ophthalmoscope usually shows extravasations of blood in retina and choroid ; serous effusion between retina and choroid, retina appearing as if raised into folds ; small clots in vitreous humour ; and an excavation of optic disk, with pulsation of arteria centralis retinæ.

TREATMENT. Bleeding, blistering, and mercury have invariably done great harm. All that the physician can do is to improve the general health. Apply eserine drops gr. 2 in ℥j. Iridectomy should be performed without loss of time.

GLOSSITIS.—From Γλῶσσα, the tongue; terminal *-itis.* Synon. *Inflammatio Linguæ; Inflammation of the Tongue.*—See *Tongue Diseases.*

GLUCOSURIA.—From Γλυκὺς, sweet; οὖρον, the urine. Sweet urine.—See *Diabetes Mellitus.*

GOITRE.—Perhaps from *Guttur*, the throat.—See *Bronchocele.*

GONORRHŒA.—From Γονῤ, semen; ῤέω, to flow. Inaccurately used to signify an inflammation, more or less acute, of one or more portions of the genito-urinary passages, accompanied with a muco-purulent discharge. Synon. The *Clap; Blennorrhagia.*

1. Gonorrhœa in Male.—Inflammation of the mucous membrane of the urethra,—generally of the anterior portion. It is attended with the flow of a contagious purulent or muco-purulent uid.

SYMPTOMS. About third day from exposure to contagion, eat and itching of glans penis. Length of incubation in econd or later attacks very irregular. Fulness and redness of rethral orifice. Milky purulent discharge, which becomes uco-purulent. Scalding. Pain in groins, irritability of bladder, eight and dragging pain about testicles.

Complications:—Painful erections or chordee. Balanitis. æmorrhage from urethra. Retention of urine. Abscess. rostatitis. Cystitis. Orchitis. Gonorrhœal ophthalmia. Gonorœal rheumatism.

TREATMENT. Balsam of copaiba and cubeb pepper; usually efficient, nauseous, apt to derange stomach and to produce in eruptions. May be given in gelatine capsules. Oil of yellow andal wood min. x to xxx on a lump of sugar, or in capsules.

Abortive treatment:—In early stage always very dangerous. consists of injections of nitrate of silver (grs. 5—10 to the oz.), active purgatives, perfect rest, hot bathing, abstinence om stimulating food and drinks; followed by mild injecons of subacetate of lead and gentle aperients. Cheyne's eatment safer,—1st week, Bougies. Iodoform, gr. v, ol. calypti min. x, ol. theobromæ, gr. xxx, introduced into urethra. rap of plaster over orifice to keep it in. Dip bougie in eucaptus or carbolic oil, 1 in 20, before insertion; this to be peated each time after passing water. Injections of boracic id 1 in 30, made with starch. After a week, when scalding as passed away, injections of zinci sulph. gr. 2 in ℥j.

In ordinary cases:—Mild aperients. Moderate rest. Diet free from salt meats, pastry, cheese, coffee, wine, beer, and spirits. In early stage give potass bicarb. and hyoscyamus. Injections—from 1 to 3 grs. to the fl. oz.—of alum, acetate of lead, sulphate of zinc, chloride of zinc, acetate of zinc, nitrate of silver, sulphate of copper, or sulphate of iron, of tannin or carbolic acid. Testicles to be supported by a suspensory bandage.

Astringent sticks or suppositories, made with cocoa butter and alum, or sulphate of zinc or tannic acid, so as to be introduced into urethra.

For relief of scalding :—Warm baths. Liquor potassæ in camphor water. Opium. Drinking freely of tea with milk, or of plain water. Demulcent drinks useless, except as vehicles for water.

For relief of chordee :—Camphor (grs. 5) and belladonna (gr. ½) in a pill at bedtime. Morphia suppositories. Sleeping on a mattress, without much covering; towel with a knot over spine, or a cotton reel, to prevent lying on the back.

For retention of urine :—Warm bath and opiate suppository, before resorting to catheter.

For hæmorrhage from urethra :—Application of ice. Pressure by introduction of a large bougie. Pressure externally by pad and bandage.

2. Chronic Gonorrhœa or Gleet.—Transparent mucous discharge. No scalding nor pain. Frequent calls to pass urine, when the prostate or the neck of the bladder is irritable. Pain in perineum.

TREATMENT. Temperate mode of living. Attention to digestive organs. If there be an organic or permanent stricture, employ dilatation, forcible rupture, or incision.

Where patches of the urethra are contracted and over-sensitive, use bougies smeared with some astringent ointment. Astringent injections. Suspensory bandage for testicles.

If there be irritation about prostate or neck of bladder, avoid bougies and injections. Employ hot baths, warm bathing of penis and perineum, opiate suppositories, and application of extract of belladonna to perineum. Infusions of uva ursi, pareira, or buchu. Iodide of potassium, 31. Painting under-surface of urethra and perineum with tincture of iodine. Application of a blister to penis for one or two hours. Cubebs in capsule or wafer very valuable.

Where there is constitutional debility,—Phosphoric acid and bark, 376. Gallic acid, 103. Iron alum, 116. Steel and cantharides, 400. Nux vomica. Cod liver oil. Sea bathing. Nourishing diet.

3. Balanitis.—From Βάλανος, the glans penis; terminal *-itis*—signifying inflammation when added to the Greek name of an organ. Synon. *Gonorrhœa Præputialis.*—Consists of inflammation, with redness and patches of excoriation, of the glans penis.

The term posthitis is used when the inner surface of the prepuce is involved. The two conditions are rarely seen apart.

SYMPTOMS. Heat and itching about the glans. A muco-purulent discharge. On denuding the glans, patches of redness and excoriation perceived, perhaps with flakes of curd-like matter. If there be œdema of foreskin, or the orifice of this covering be contracted, retraction may be impossible—phimosis. Necessity of drawing back the foreskin, there may be a chancre, or an abscess. Sympathetic bubo may arise, often complicated with gonorrhœa. Balanitis from inoculation with secondary syphilitic discharge, may cause constitutional infection.

A similar disorder—*vulvitis*—occasionally met with in women, or female children.

TREATMENT. Great cleanliness. Frequent syringing under foreskin with weak astringent lotions,—Boracic acid, alum, subacetate of lead, sulphate of zinc, &c. Mere washing and drying of parts, twice in twenty-four hours, with separation of glans from prepuce by a thin layer of cotton wool. Circumcision. Slitting up of prepuce. Dilatation of preputial opening with sponge tents. After retraction of foreskin it is again to be drawn forwards, to avoid paraphimosis.

4. **Gonorrhœa in Female.**—Consists of acute or chronic inflammation of urethra, vulva, vagina, or canal of cervix uteri. Not to be distinguished from inflammations due to other causes than impure sexual intercourse. In acute stage symptoms generally milder than in male, but if neglected apt to spread up cervical canal, uterus, tubes, even to the peritoneal cavity. Pyosalpinx or perimetritis (see *Fallopian Tube, Diseases of*).

TREATMENT. Hot hip baths. Vaginal injections of warm water. Mild aperients. Rest. Low diet. Tincture of iodine to be applied to vagina daily through a speculum.

GOUT.—From the Fr. *Goutte*, a drop; because it was thought to be produced by a humour which fell *goutte à goutte* into the joints. —May be defined as a constitutional disease giving rise to inflammation of specific character usually affecting the smaller joints. There is very great tendency to hereditary transmission of this disease. It is accompanied by great pain and swelling of the affected joint, fever with general disturbance, and especially by some disorder of the digestive organs. The disease has a tendency to recur again and again, after variable intervals.

Causes.—Over-indulgence in nitrogenized food and malt liquors or strong wines; lead poisoning, &c.

SYMPTOMS. The acute attack may be preceded by warnings,—heartburn, flatulence, dull pain in left side of chest, irregularity of heart's action, dry skin, urticaria, and urine loaded with urates. It may come on suddenly in the night, with acute pain in great toe, heel, or instep; a rigor followed by heat, tenderness and swelling of affected part: fever, irritability, and restlessness;

constipation with furred tongue; and urine loaded with urates, phosphates, or containing albumen. The attack passes off; an interval elapses, of length proportionate to the care taken; and then another attack follows. In chronic gout, tophi or chalk-stones form round the joints, consisting chiefly of urate of soda; small deposits on auricle of ear.

Complications:—In retrocedent gout metastasis occurs from the joint to some internal organ,—to the stomach, heart, membranes of the brain. Often caused by application of cold to gouty limb.

Gouty diathesis without local manifestations, causing neuralgia, dyspepsia, palpitation, syncope, congestion of liver, urticaria, piles, pains about the head, toothache, tonsillitis, &c.

The diathesis or chronic form of the disease also a common cause of disease of the kidneys, arteries, and heart, and indirectly of apoplexy.

TREATMENT. *Acute Stage:*—Bleeding to four or six ounces, where the constitution is sound, to relieve overloaded heart and congested vessels. Saline aperients, sulphate and carbonate of magnesia, 141. Mild laxatives containing aloes, senna, rhubarb, jalap, &c., 144, 145, 146, 148, 149, 151. Calomel, colchicum, aloes, and ipecacuanha pill, 46. Acetate, citrate, or bicarbonate of potash. Salts of lithia. Emetics. Opium. Hot air or vapour bath. Colchicum, in Vichy water, or with sedatives and alkalies, or benzoate of sodæ gr. 30 ter die. Sodii bicarb. gr. 10, sodii chloridi gr. 10, sodii sulphatis ʒss:—or quinæ sulph. gr. 1, ext. colchici gr. 1, ext. col. co. gr. 2, in a pill two or three times a day. Iodide of potassium, 31, 46, 212, 351, 352. Hellebore and colchicum, 163. Carbonate of ammonia. Liquor potassæ. Liquor sodæ. Sulphur.—*Locally:*—Cotton wool and oiled silk. Raise foot. Anodyne lotions, 265, 281, 297. Extract of belladonna or opium. Ointment of veratria. Small blisters in chronic cases.—*Diet:*— Milk. Arrowroot. Tapioca. Tea. Copious diluents. Soda water. Vichy water. Avoid animal food too soon, and alcohol, if possible, entirely.

Chronic Stage:—Maintain proper action of bowels and skin. Colchicum. Alkalies. Iodide of potassium. Taraxacum. Guaiacum. Quassia. Calumba. Bark. Mild ferruginous tonics, 394, 402, 403. Arsenic, with colchicum or iodide of potassium or steel, 52, 399. Phosphate of soda. Avoid opening chalk-stones. Friction with liniments of iodide of potassium or iodide of ammonium, 280. Regulate diet:—Animal food in small quantity; white fish: milk and eggs. Avoidance of malt liquors, port, and sherry; sugar to be used sparingly.

In irregular or misplaced attacks:—Salines and colchicum. Ether. Ammonia. Chloroform. Brandy. Mustard pediluvia. Warmth to the joints. Sinapisms. Turpentine stupes.

To prevent repetition of attack:—Well-regulated diet. Food from which healthy chyle can be extracted. Claret. Hock. Hungarian wines (Ofner or Carlowitz). Brandy and water.

Soda water. Vichy water. Lithia water. Mild aperients. Carbonate or citrate of lithia, 64. Moderate mental and bodily exertion. Avoidance of too great sexual indulgence. Hot air or water baths. A visit to Bath, Buxton, Cheltenham, Harrogate, or Leamington; Wiesbaden, Vichy, Carlsbad, Aix-la Chapelle, Fachingen, Kissingen.

GRAVEDO.—From *Gravis*, heavy. Catarrhal inflammation of membrane lining frontal sinuses.

Symptoms. Usual phenomenon of severe catarrh with great pain in brow.—See *Catarrh*.

GRAVES' DISEASE.—Synon. *Exophthalmic Goitre; Basedow's Disease.*—This name has been given to a singular combination of three symptoms,—palpitation, protrusion of eyeballs, and enlargement of thyroid gland. More common in females than males: there is often some obscure connection between it and disturbance of the uterine functions. Generally believed that a neurosis of the cervical sympathetic nerve is the cause of the affection. The cases run a chronic course. The remedies to be resorted to will depend on the condition of the system—*i.e.*, whether there is any syphilitic taint, or tuberculosis, or simply a state of anæmia. Rest is essential. Belladonna. Digitalis. Arsenic. Phosphorus. Iron. Zinc. Cod liver oil. Strychnine. Iron. Change of air. Galvanization of sympathetic in neck; 20 to 40 cells Leclanché. One pole behind lower jaw in front of sterno-mastoid, the other either at opposite side, or at either side of vertebra prominens or at apex of sternum.

GUINEA-WORM, or *Dracontiasis.*—A disease where the subcutaneous connective tissue of the feet and legs lodge a very long, filarious nematode worm like a horse-hair—the *Filaria medinensis*—believed by some authors to enter the patient, not through the skin from without, but in drinking water, which contains a minute entomostraca (*Cyclops*) infested with the larva of *Filaria*. Endemic in some parts of Asia and Africa. It may attack Europeans of either sex, and of any social rank.

Symptoms. May be absent for some months: then a feeling of irritation in affected part, when a cord-like ridge may be felt. Constitutional disturbance: fever, headache, nausea, colic, debility. A kind of boil forms: sometimes pustule breaks, and head of worm protrudes.

Treatment. *Curative:*—When head protrudes, a thread to be placed round it and rolled on a piece of stick or bougie; day by day drawing worm out, and winding it round the stick until extraction is complete. When worm does not protrude, it may be exposed by incision; parasite being removed in a loop, or a wedge of wood being inserted around which it is to be wound without fracture.

Prophylactic:—Feet to be well protected, when travelling in districts where Guinea-worm is found. Thorough drying of feet after bathing, or wading through marshy districts. Avoidance of lying on the ground with any part of body exposed to the soil.

HÆMATEMESIS.—From Αἷμα, blood; ἐμέω, to vomit. Synon. *Gastrorrhagia; Hæmorrhœa Ventriculi; Vomiting of Blood.*—Hæmorrhage from the stomach may be either acute or chronic: latter most dangerous, as indicative of some disease of abdominal viscera.

CAUSES. Simple or malignant ulcer: cirrhosis of liver: very rarely aneurism of one of the branches of abdominal aorta: vicarious menstruation: scurvy.

SYMPTOMS. Blood vomited in considerable quantities. Blood not frothy: of a dark colour, often in clots. Blood mixed with food. Melæna very common. Gastric or duodenal symptoms.

TREATMENT. *In acute form*:—Entire abstinence from food for twenty-four or forty-eight hours or longer; then milk, which should be peptonized, or milk and lime-water to be given in spoonfuls and increased gradually. If necessary, enemata of beef tea and brandy, 21, 23. Perfect rest in horizontal posture. Cold to the epigastrium, 118. Ice or cold acidulous drinks. Gallic acid, 103. Turpentine, 102. Sulphuric acid and opium, 100. Tincture of perchloride of iron, 101. Lead and acetic acid, 117. Alum and sulphuric acid, 116. Ergot of rye. Ipecacuanha.

In chronic form:—Mineral acids with bark, 376. Quinine and iron, 380. Ammonio-sulphate of iron, 116. Cream; raw eggs; essence of beef. Cod liver oil.—See *Hæmoptysis.*

HÆMATOCELE.—Effusion of blood into cavity of *tunica vaginalis testis.* May arise from injury, straining, rupture of varicose veins of cord.

SYMPTOMS. Swelling coming on rapidly, pain and weight. Tumour pyriform, soft or hard, not transparent; hiding testicle.

TREATMENT. Rest. Cold lotions. Suspensory bandage. Sometimes it is necessary to make an incision and let out the extravasated blood.

HÆMATOCELE, Pelvic or Retro-Uterine.—See *Pelvic Hæmatocele.*

HÆMATOMA AURIS.—From Αἱματόω, to convert into blood. *Auris*, the ear.—A tumour caused by effusion of blood between cartilage and perichondrium of the anterior surface of outer ear. Often symmetrical. Especially affects insane. May suppurate. As it disappears it leaves the ear more or less deformed.—See *Insanity.*

TREATMENT. Cooling lotions. Lay open if it suppurates.

HÆMATOZOA.—From Αἷμα, blood; ζῶον, an animal.—The following entozoa have been found in human blood:—

(1) Filaria Sanguinis Hominis.—A worm of microscopic dimensions, discovered by Dr. Lewis in the blood of sufferers from chyluria.—See *Chyluria.*

(2) Bilharzia Hæmatobia.—One of the most dangerous parasites in man. A worm-like trematode, the female about 18 mm. long, the male 12 mm. and much thicker: lodging the female in a groove during coitus. The mature worms inhabit in couples the portal veins, the veins of the mesentery and bladder. When in the veins of the bladder they cause extravasations of blood and ulcerations of the mucous membrane, allowing the escape of the ova into the bloody urine, when they can be detected on microscopic examination. The parasite is very common in Egypt, and especially infests the bodies of those who drink the unfiltered waters of the Nile, &c. It is probably the cause of a peculiar form of hæmaturia somewhat prevalent in Egypt, Southern Africa and the Mauritius.

Symptoms. Colic. Hæmaturia, great and increasing prostration. The disease when established almost always fatal.

(3) Hexathyridium Venarum.—About three lines in length. Has been found in venous blood, and in sputa of patients with hæmoptysis. Probably miniature form of Distoma hepaticum (Leuckart).—See *Entozoa.*

HÆMATINURIA.—See *Paroxysmal Hæmaturia.*

HÆMATURIA. From Αἷμα, blood; οὖρον, urine. Synon. *Hæmuresis; Sanguis in Urina; Bloody Urine.*—Hæmorrhage from the mucous membrane of the urinary passages,—the kidneys, bladder, or urethra.

Symptoms. Urine smoky, or of a black hue, or of a port-wine tint. Albumen present. When from kidney, the blood equally diffused through the urine. Casts of ureters may be present. When from bladder or urethra blood comes away after passing clear urine. Blood casts of renal tubes, cancer cells, renal calculi may be found.

Urine not unfrequently found to be bloody during the fit in ague.

Paroxysmal hæmoglobinuria is induced by exposure to cold in certain predisposed constitutions. Patient is chilly, shivers, and passes urine more or less loaded with blood; in a few hours the urine becomes healthy. No blood-corpuscles are found, they are disintegrated; whence the disease has been called *paroxysmal hæmatolysis*, or *hæmatinuria.* Oxalate of lime crystals often present. The subjects of this affection are pale, weary and incapable of exertion in cold weather.

Endemic hæmaturia of Egypt, Southern Africa, and Mauritius due to the Bilharzia hæmatobia.—See *Hæmatozoa.*

Treatment. *In malignant disease or calculus:*—Gallic acid, 103. Tincture of perchloride of iron, 101. Sulphuric acid and opium, 100. Infusion of matico. Ruspini's styptic. Turpentine.

Creasote. Krameria. Ergot of rye. Opium. Rest in recumbent posture. Sinapisms. Turpentine stupes. Application of ice to loins. Nephrectomy. Nephro-lithotomy.

In renal disease or some morbid poison in the blood:—Hot air baths. Warm water baths. Compound jalap powder. Ferruginous tonics,—especially tincture of perchloride of iron, and iron alum. Quinine.

From disease of urethra:—Application of ice. Use of a large bougie for some hours.

Vesical hæmorrhage:—Injections injurious.—Ice to spine or in rectum. Inf. matico. Ammonio-sulphate of iron, 116. Opium.

For *paroxysmal hæmaturia* change to a warm climate is desirable. Quinine. Arsenic. Phosphorus. Iron.

HÆMOPHILIA.—Synon. *Hæmorrhagic Diathesis*—which see.

HÆMOPTYSIS.—From Αἷμα, blood; πτύω, to spit. Synon. *Emoptoe; Sputum Sanguinis; Hæmorrhagia Pulmonis: Pneumorrhagia.*—The escape of blood through the mouth—from larynx, trachea, bronchial tubes, or air-cells of lungs. Of little consequence comparatively when due to some accidental and transitory cause. An important indication of bronchial, pulmonary, cardiac, or aortic disease, when of frequent recurrence, at variable intervals.

SYMPTOMS. Blood coughed up in mouthfuls. Blood frothy, and of a florid red colour. Blood mingled with sputa.

Distinctions between hæmoptysis and hæmatemesis:—

In *hæmoptysis*:—	In *hæmatemesis*:—
Dyspnœa; pain or heat in chest.	Nausea; epigastric tenderness.
Blood coughed up in mouthfuls.	Blood vomited profusely.
Blood frothy.	Blood not frothy.
Blood of a florid red colour.	Blood dark coloured.
Blood mingled with sputa.	Blood mixed with food.
Absence of melæna.	Melæna very common.
Bronchial or pulmonary symptoms.	Gastric or duodenal symptoms.

Hæmoptysis is specially common in phthisis, and may occur in the early stage from congestion, in the later stages from rupture of a blood-vessel into a cavity. In pulmonary apoplexy secondary to heart disease, the blood darker and less copious. When due to aneurism of arch of aorta pressing upon and opening into trachea usually fatal at once, but may cease for a time and recur.

TREATMENT. Strict mental and bodily repose. Rest in bed. Head and shoulders to be elevated. Unstimulating diet. Ice and cold drinks. Blisters. Turpentine stupes. Sinapisms. Dry cupping. Ice to chest.

When due to portal congestion, saline aperients. Gallic acid, 103. Mineral acids, 99, 100, 115. Digitalis. Ergot. In later tages, astringents. Sulphate of magnesia, sulphate of iron, and ulphuric acid. Acetic acid. Ferri et ammonii sulph., 116. Acetate of lead and opium, 117. Creasote. Hamamelis. Ergot of rye. Turpentine, 102. Alum. Infusion of matico. Hydrocyanic acid. Morphia. Emetics of ipecacuan. A ligature round the limbs. Inhalation of atomized fluids, medicated with tannic acid, alum, perchloride of iron, or turpentine, 262.

HÆMORRHAGE.—Synon. *Sanguifluxus; Hæmorrhœa; Loss of Blood; Rupture of a Bloodvessel.*—The escape of blood from the vessels in which it is naturally contained constitutes hæmorrhage (*hæmorrhagia*, from Αἷμα, blood; ῥήγνυμι, to break out.

VARIETIES. The chief subdivisions are these:—*Traumatic* when a vessel has been directly divided, and *spontaneous* when the bleeding has resulted from some constitutional cause. *Symptomatic* when clearly a result of some disease, as tubercle, cancer, &c. *Idiopathic* or *essential*, when no such connection has been perceptible. Or *active* hæmorrhage when congestion or inflammation has preceded the flow, and *passive* when there have previously existed signs of debility, with poverty of blood. Moreover, hæmorrhages have been termed *constitutional* when they occur at intervals, and seem to be of service to general health, as in the bleeding from piles in plethoric people; *vicarious* when supplemental of some other hæmorrhage, as where a woman has periodical bleeding from nose in place of usual catamenial discharge; and sometimes spoken of as *critical* when they occur during progress of some disease, and produce marked good or ad effects.

The *seat* of the hæmorrhage is likely to vary with the patient's age. Bleeding from the nose is most common in youth; from the lungs and bronchi, stomach, urinary passages, and uterus in adults; and from the cerebral vessels and rectum in old age.

TREATMENT. Cool apartment. Repose. Freedom from excitement. Simple and unstimulating diet. Position such as to prevent afflux of blood to bleeding organ. Application of cold. urpentine stupes. Blisters. Ligatures.

Ice. Gallic acid. Tannin. Mineral acids. Ammonio-ferric alum. Tincture of perchloride of iron. Creasote. Ipecacuanha. Acetate of lead. Ruspini's styptic. Oil of turpentine. Nitrate silver. Oxide of silver. Alum. Kino. Matico. Rhatany. orrosive sublimate. Calomel. Ergot of rye. Opium. Venesection rarely. Digitalis. Aperients. Cautery. Ligature. Torsion vessels. Pressure on artery. Transfusion. Promote absorption of extravasated blood, by iodide of potassium, blisters, &c.—e *Apoplexy; Epistaxis; Hæmatemesis; Hæmaturia; Hæmoptysis; enorrhagia; Melæna; Otorrhagia; Stomatorrhagia.*

HÆMORRHAGIC DIATHESIS.—Synon. *Hæmophilia.*—Usually ngenital, and markedly hereditary, usually transmitted by males and manifested by males of a family, or may perhaps be induced by insufficient food. Perhaps sometimes connected with diseased spleen. Due to absence of coagulable constituent of blood.

Symptoms. Ecchymoses. Dropsy. Painful swellings round joints. Bleeding from umbilicus a few days after birth; from nose or gums in youth; from urinary passages or rectum in after-life. There may be fatal loss of blood by epistaxis or after leech-bite, extraction of a tooth, rupture of hymen, &c.

Treatment. Avoidance of surgical operations. Caution after accidents. Locally, perchloride of iron. Mercurial and saline aperients once a week. Dry diet. White fibrous meats. Open air exercise. Nourishing food.—See *Hæmorrhage.*

HÆMORRHOIDS.—From Αἷμα, blood; ῥέω, to flow. Synon. *Proctalgia Hæmorrhoidalis; Piles.* — Small tumours situated within or at verge of anus. Two varieties:—(1) *External*, or those outside sphincter muscle. (2) *Internal*, or such as are within sphincter. Often, the two kinds co-exist.

1. External Hæmorrhoids.—Consist either of a knot of varicose veins, or of one or more cutaneous excrescences. In first case, the veins may contain fluid blood; more frequently their contents have coagulated, forming one or several tense and purple swellings. The excrescences consist chiefly of hypertrophied or œdematous skin and connective tissue.

Symptoms. When indolent, only troublesome from their bulk. If they become congested or inflamed considerable pain arises; with heat and throbbing, tenesmus, backache, irritability of bladder, perhaps retention of urine, and uterine irritation in women.

Treatment. Daily action of bowels to be procured. Sometimes better at bedtime than in the morning. Confection of pepper. Confection of senna. Confection of sulphur. Compound electuaries, 194. Simple enemata, 188. Sulphur and magnesia, 153. Pepsine and extract of aloes, 155. Glycerine one or two teaspoonfuls three times a day. Castor oil. Mercury and chalk. Taraxacum. Pullna and other saline aperient waters. Anus to be sponged with cold water after every stool. Sponging parts round anus, when relaxed, with hazeline. Ointment of galls and opium.—Plain nourishing food; free from highly seasoned dishes, coffee, and alcoholic stimulants. Hot bathing and poultices where there is inflammation. Incision with evacuation of contained clot, when tumour is swollen and tender. Excision of growths, with curved scissors.

2. Internal Hæmorrhoids.—May be simple or multiple. Of two kinds:—(1) *Capillary hæmorrhoids*, having a red granular appearance, and spongy texture like that of erectile tissue. (2) *Venous hæmorrhoids*, made up of varicose branches of the plexus of hæmorrhoidal veins. Often plugged. Frequently inflamed and may slough.

SYMPTOMS. The piles only protrude during defæcation at irst. Afterwards, as sphincter gets dilated by their pressure, nd relaxed by attacks of hæmorrhage, they are constantly down, ave when patient is in recumbent posture. Loss of blood, from mere tinging of fæces, to escape of many ounces. Uneasiness bout rectum ; tenesmus, especially if fissure exists, as is frequent. rritability of bladder, and of uterus in women. Muco-purulent ischarge. Loss of flesh. Anæmia. Sallowness of complexion. erangement of functions of liver, stomach and bowels, &c.

TREATMENT. Daily action of bowels to be ensured by remedies ecommended for external piles. Improvement of general health. ttention to functions of liver, digestive organs, &c. Nitro-ydrochloric acid. Digitalis. Quinine. Arsenic. Sulphur. old water enemata. Enemata of solutions of gallic acid, alum, azeline, ammonio-ferric alum, or of tincture of perchloride of on to check hæmorrhage. When protruding piles cannot be eplaced, it may be necessary to reduce their size by applying ice, by puncturing, before making further attempts. If, from onstriction of sphincter, protruded piles have become stranguted and more or less gangrenous, they must be poulticed, and in relieved by opiates till they slough off.

Radical cures :—Cauterization with nitric acid for capillary æmorrhoids. Simple excision dangerous, owing to probability hæmorrhage. Purgatives to clear bowels. Use of clamp and moval by Paquelin cautery. Bowels to be kept quiet for four or ve days after. Operation by ligature.

HEADACHE.—Synon. *Cephalalgia* (Κεφαλή, the head; ἄλγος, in).—Of common occurrence during progress of most acute nd many chronic diseases. Affects adults more than young or d : inhabitants of towns more than country folk : nervous and licate more than robust : higher classes of society more than wer.

VARIETIES. Four principal forms may be noticed :—

(1) *Organic headache*, due to disease of brain or membranes, and pecially of such in early stage. Accompanied by vertigo; somenes by vomiting, convulsions, confusion of mind, noises in ears. in, sharp or dull, or lancinating or throbbing. When due to flammation, pain intense, increased by warmth or noise or ovements, and lessened by elevating head.—In valvular disease heart, the interrupted supply of blood to nervous system uses headache.—Sometimes headache is the only symptom of nstitutional syphilis.

(2) *Plethoric headache*, dependent on congestion of cerebral ssels. Sense of pulsation in ears : giddiness on stooping. nstipation. Those who live too freely, take but little exercise, se late in morning, &c., are subject to it. It may arise from dden suppression of accustomed discharge, as of catamenia.

(3) *Bilious headache*, so called, associated as frequently with stric catarrh and other derangements as with disorder of liver.

May be temporary or constant. When temporary, produced by some error of diet, any excess in food or wine. Most severe in morning, after restless night. Passes away with cause. Constant sick headache occurs in persons with weak stomachs, and in the gouty. Stomach and duodenum out of order: gastric catarrh. Tongue coated, breath offensive, flatulence, low spirits, nausea. Hepatic functions ill-performed: stools clay coloured. Urine scanty and high coloured.

(4) *Nervous headache*, often spoken of as sick headache, is frequently hereditary. It comes on at intervals without provocation, or after fatigue or hot rooms or errors in diet. It often results in violent vomiting.

Nervous headache may be owing to debility and exhaustion. Poverty of blood from renal disease, hæmorrhage, &c., may induce it. Irritation of decayed teeth, or offensive stumps, a frequent cause.—In *hemicrania* or *brow-ague*, symptoms are intermittent, recurring with regularity of an ague fit.—*Megrim* is a form which affects delicate women, especially if exhausted by over-lactation.—When hysterical young women suffer from nervous headache it is often confined to a single spot, resembles the pain of driving a nail into the part, and is known as *clavus hystericus*.

TREATMENT. The indications are to relieve congestion of head and dyspeptic symptoms, while tone is given to general system. Diet to be regulated: often advisable to discontinue tea and coffee, though in some instances the latter is beneficial. Milk taken at night may be injurious. Tobacco in all forms to be forbidden. In organic headaches, attention to be paid chiefly to cerebral mischief. Syphilis or gout must be treated accordingly.

Sulphate of soda and taraxacum, 144. Aloes, gentian, and liquor potassæ, 148. Pepsine and aloes, 155: Rhubarb and magnesia, 165. Rhubarb and blue pill, 171. Nux vomica and rhubarb, 175. Colchicum, 46. Phosphate of iron, 405. Effervescing citrate of magnesia. Salicylate of soda. Hydrochlorate of ammonia, 60. Aconite. Belladonna. Camphor. Iodide of potassium where there is a suspicion of syphilitic taint. Nitro-hydrochloric acid, 378. Where there is albuminuria, iron alum, 116; tincture of perchloride of iron and hydrochloric acid, 101. Quinine or arsenic in hemicrania, 52, 379, 381. Zinc or steel in hysterical forms, 394, 403, 410, 414. Caffeine. Antipyrin. Guarana. Shower baths. Mustard pediluvia. Holding arms high above the head sometimes palliative, owing to effect on cerebral circulation. Compression of temporal arteries with pads and a bandage round forehead. Ether spray to forehead in frontal headache. Junod's boot. Cold lotions, sponge dipped in cold water, eau de Cologne, &c., to forehead and crown. Hot water bag, or hot sponge to nucha. Dry cupping, or blisters, or sinapisms, to nape of neck. Extraction of bad teeth. Change of air.

HEMERALOPIA.—From 'Ημέρα, daylight; ὄπτομαι, to see. Synon. *Visus Diurnus; Dysopia Tenebrarum; Night-blindness; Day-vision.*—That condition in which vision is only distinct during daylight. Long exposure to strong light, such as that of the tropics, temporarily exhausts the sensibility of the retina, so that this delicate structure ceases to be affected by twilight. Soldiers and sailors in hot climates often suffer from night-blindness: when so affected they are incapacitated for duty after sunset. In scurvy, there is sometimes the same symptom: retina is weakened like the other tissues. Rest of the eyes, use of dark blue glasses, quinine or steel, cod liver oil, and nourishing food will generally effect a cure.

In another distinct class of cases, night blindness is a much more serious condition, being due to structural changes in choroid and retina. Ophthalmoscope shows the presence of masses of black pigment on surface of choroid and in the degenerating retina. Tissues of choroid become atrophied: ultimately, the retina undergoes similar change. Total and irremediable blindness gradually ensues.

HEMICRANIA.—From "Ημισυς, half; κρανίον, the skull. Synon. *Hemicephalæa: Neuralgia Cerebralis; Megrim.*—Headache affecting one side of brow and forehead.—See *Neuralgia; Headache.*

HEMIOPIA.—From "Ημισυς, half; ὤψ, the eye. Synon. *Visus Dimidiatus.*—That form of faulty vision in which only half an object is seen. May be temporary or permanent.

HEMIPLEGIA.—From "Ημισυς, half; πλήσσω, to strike. Synon. *Semiplegia; Semisideratio.*—Paralysis limited to one side of the body.—See *Paralysis.*

HEPATIC ATROPHY.—From 'Ηπατικὸς, affecting the liver; 'A priv.; τρέφω, to strengthen or support.—See *Acholia.*

1. **Acute Atrophy of Liver.**—Synon. *Yellow Atrophy of Liver; Acute Wasting of Liver: Softening of Liver: Diffused Hepatitis: Fatal Jaundice.*—A most remarkable disease, probably due to septicæmia; consisting, as a rule, of a rapid and complete destruction of the hepatic cells through every part of the gland. Women more obnoxious to this rare affection than men; pregnancy seems to predispose to it. Among other alleged exciting causes are,—grief or anxiety, sudden alarm, fits of passion; venereal excesses, syphilis, excessive use of mercury; drunkenness and dissolute habits; poisons of malaria and typhus; phosphorus poisoning. Many points of resemblance between acute atrophy and yellow fever.

Symptoms. *Preliminary stage:*—Headache, loss of appetite, thirst, drowsiness, mental and bodily depression, irregularity of bowels, tenderness of abdomen. Then, conjunctivæ become yellow: skin gets slightly jaundiced. These precursory symptoms may last from a few days to three or four weeks; or may be altogether absent.

Confirmed stage:—Jaundice; perhaps with petechiæ and large ecchymoses. Vomiting; at first of mucus, afterwards of matter like coffee-grounds (altered blood). Irritability, great despondency; soon followed by wandering merging into noisy delirium and convulsions, stupor and deep coma.—Tongue and teeth coated with black sordes. Pains about epigastric and right hypochondriac regions. Diminution of hepatic dulness (may be increased at first): increased area of splenic dulness. Obstinate constipation: purgatives bring away hard clay-coloured stools; at later period, evacuations black from presence of blood. Difficult micturition: urine loaded with bile pigment, perhaps albuminous, and containing tyrosine and leucine.—Increase of jaundice. Bedsores, if life be prolonged beyond eight or nine days. Hæmorrhages from nose, stomach, bowels, bronchi, &c.

Death usually occurs within a week of commencement of confirmed stage; sometimes within eighteen or twenty-four hours.

TREATMENT. Empirical and probably useless. Usual remedies:—Drastic purgatives; then mineral acids, with diffusible stimulants as prostration increases. Large doses of quinine and mineral acids. Ice. Cold drinks.

2. Chronic Atrophy of Liver.—This disease is in no way connected with acute atrophy. It results from all those conditions which tend to arrest the capillary circulation through the gland, and hence to lessen its nutrition.

SYMPTOMS. Developed slowly and insidiously. Imperfect digestion: flatulence, diarrhœa, alternating with constipation, pale-coloured stools. Dry sallow skin. Loss of flesh and strength. Anæmia: persistent wasting: perhaps ascites or general dropsy: finally, there may be fatal exhaustion.

TREATMENT. Light nourishing food: avoidance of rich dishes, sugar, fermented drinks, coffee. Warm clothing. Over-fatigue to be guarded against.—Pepsine, 420. Purified ox bile with ammonia, 170. Quinine and ipecacuanha, 44, 384. Quinine and rhubarb, 385. Bark and mineral acids, 376. Harrogate waters. Spa. Kissingen. Marienbad.—*If dropsy set in:*—Purgatives, elaterium, jalap, &c. Diuretics, squills, digitalis, and broom, 219. Buchu and acid tartrate of potash, 222. Nitre, juniper, and ether, 221. Tapping, to afford temporary relief.

HEPATIC CALCULI.—From Ἡπατικὸς, affecting the liver; *Calculus* (dimin. of calx), a small stone.—See *Gall-Stones.*

HEPATIC CANCER—From Ἡπατικὸς, affecting the liver.—Every variety of cancer has been met with in the liver. Usually secondary to cancer of stomach and pylorus, uterus, or breast. Soft spheroidal-cell type most frequent.

SYMPTOMS. In addition to general indications of malignant disease :—Enlargement of gland : loss of regular form : detection of uneven bulging prominences. Nodulous masses often give rise to partial peritonitis. Daily increasing loss of flesh and strength. Diffused abdominal pain and tenderness. Indigestion. Irritability and mental depression. Jaundice occurs more frequently than ascites : occasionally both present. Formation of gall-stones not uncommonly adds materially to the suffering.

Duration, except in scirrhus, short. Life seldom prolonged for two years, sometimes only for six months, from onset of symptoms.

Treatment. Opium. Belladonna. Conium. Ammonia and bark. Mineral or vegetable acids. Light nourishing diet.—See *Cancer*.

HEPATIC CONGESTION.—From 'Ηπατικὸς, affecting the liver. Synon. *Hyperæmia of the Liver; Congestion of the Liver.*—Two varieties to be described :—

1. Passive Congestion.—Simplest form. Results from some obstruction to circulation through hepatic and portal veins. Occurs in valvular affections of heart, *nutmeg liver*, in morbid states of lungs impeding passage of blood through pulmonary artery ; in diseases which diminish capacity of thoracic cavity ; temporarily, from violent exercise, &c. Leads to diminished excretion of bile : ducts become gorged with bile—*biliary congestion.*

Symptoms. Sense of constriction and weight in right hypochondrium. Often, slight jaundice, nausea, dyspepsia : urine scanty, high-coloured, perhaps contains bile-pigment, with traces of albumen : habitual constipation and hæmorrhoids. Area of hepatic dulness found to be increased on percussion, and liver felt to descend below ribs and extend across epigastrium. Symptoms of cardiac or pulmonary disease, &c.

Treatment. Sulphate and carbonate of magnesia, 141. Sulphate of soda and sulphuric acid, 143. Aloes, senna, and sulphate of magnesia, 150. Antimony and magnesia, 152. Nitric acid, senna, and taraxacum, 147. Ammonia and rhubarb, 161. Sulphate of magnesia and iron, 166. Leeches to anus. Harrogate waters. Carlsbad. Kissingen. Marienbad. Simple diet. Avoidance of stimulants.

2. Active Congestion.—Capillaries of hepatic artery chiefly affected. Produced by morbid matters in blood ; suppression of habitual discharges—*i.e.*, hæmorrhoidal, catamenial, &c. ; long residence in hot climates ; deranged nervous influence ; atony of blood-vessels from disease of coats ; excessive eating and drinking, alcohol, &c. ; sedentary habits.

Symptoms. Fulness and sense of tightness about right hypochondrium. Slight enlargement of gland. Pains about right shoulder. Headache ; loss of appetite ; mental depression ;

nausea; irregularity of bowels, bilious stools, &c. These symptoms soon pass off, unless the congestion be kept up by non-removal of the cause; in which case structural disease may ultimately result, with jaundice, or dropsy, &c.

TREATMENT. Removal of cause. Horse exercise, walking, &c. Simple diet: white fish, fresh vegetables, rice, weak tea, &c. Aloes, gentian and solution of potash, 148. Sulphate of soda and taraxacum, 144. Aloes, senna, and jalap, 145. Resin of podophyllum. Sulphate of manganese, 172. Nitro-hydrochloric acid, 378.

3. **Apoplexy of Liver.**—Extravasated masses of blood sometimes found in hepatic tissue, or beneath the capsule. Results of great congestion induced by morbid changes in the blood. Occur in scurvy, purpura, septicæmia, and especially in malarious fevers of tropical climates. Extravasations often numerous: vary in size from a pea to a hen's egg; or blood may be infiltrated through parenchyma, converting the tissue into a pulpy mass.

HEPATIC DEGENERATIONS.—From 'Ηπατικὸς, affecting the liver; *Degenero*, to degenerate.—Three varieties:—

1. **Fatty Infiltration of Liver.**—Synon. *Hepar Adiposum; Fatty Liver.*—A great increase in the quantity of oil naturally contained in the hepatic cells; so that, on minute examination, the latter are found gorged with oil-globules, diminishing the normal granular matter, and quite obscuring the nucleolated nuclei. Liver large, pale, smooth, and greasy, often burning like fat. Quite distinct from *fatty degeneration*, in which the nutrition of the hepatic cells becomes impaired, and they (the cells) undergo a fatty metamorphosis. Degeneration may occur as a result of cirrhosis or amyloid degeneration of the liver, phosphorus poisoning, or acute yellow atrophy.

Of frequent occurence in phthisis, obesity, and in fatty degeneration of other important organs. May affect those who live too freely, who lead indolent lives. Has been observed in constitutional syphilis; as well as after death from septicæmia, typhus, small-pox, erysipelas, &c.

SYMPTOMS. Often distinguished with difficulty from those of associated disease. If cells be excessively loaded, they may impede capillary circulation and obstruct excretion of bile. Gastric catarrh, dyspepsia, constipation alternating with diarrhœa, pasty-looking complexion, anæmia, hæmorrhoids, &c., may be present. Liver found to be enlarged on physical examination. Possibly, ascites; complete acholia; or fatal exhaustion.

TREATMENT. Regulation of diet: plainly cooked animal food, fresh ripe fruits. Avoidance of alcohol, sugar, amylaceous matters, and fat. Daily exercise. Sulphate of soda and taraxacum, 144. Alkaline aperients, 148. Rhubarb and magnesia, 165.

Hydrochlorate of ammonia, 60. Iodide of potassium, 31. Harrogate waters. Carlsbad. Kissingen. Selters.

2. **Amyloid Degeneration.**—From *Amylum*, starch. Synon. *Waxy, Albuminous, Lardaceous*, or *Scrofulous Liver.*—May co-exist with fatty liver, cirrhotic induration, syphilitic cicatrices, and gummatous nodules, or be alone present. The glandular structure is gradually converted into a dense material. Minute blood-vessels first thickened, then lobules invaded from without inwards; hence destruction of hepatic cells with abolition of their functions. After death, liver found increased in weight and size: may average 8 or 9 lbs. avoir. instead of 3 or 4 lbs. Substance firm, glistening on section, resembling yellow wax: cut surface presents only faint traces of lobules. Iodine and sulphuric acid stain it dark blue or black.

Chief predisposing causes,—Caries and necrosis in strumous subjects; constitutional syphilis; prolonged suppuration; tubercular disease of lungs and intestines; perhaps intermittent fever.

SYMPTOMS. Enlargement of liver. Sense of fulness in right hypochondrium. Enlargement of spleen. Loss of appetite. Dyspepsia: flatulence, attacks of diarrhœa with pale stools, nausea. Anæmia with sallow look. Albuminuria, from co-existence of same disease in kidneys. Very rarely, acute pain; jaundice; ascites. Disease slowly but steadily advances to fatal termination.

TREATMENT. Unsatisfactory. Attempts to be made to relieve the cause, and prominent symptoms. Potash salts. Iodide of potassium, or mercury if due to syphilitic affection. Iodide of iron. Ferruginous or other tonics. Warm or tepid sea-water baths. Digestible food.—See *Amyloid Degeneration.*

3. **Pigment Liver.**—Synon. *Melanæmic Liver.*—After death from severe intermittent, remittent, or continued fevers, the liver is very rarely found to present a blackish or chocolate colour. This is due to accumulation of pigment matter in vascular apparatus of the gland (Frerichs). The loading of the hepatic capillaries with this melanotic matter, leads to their destruction, and consequent atrophy of the gland. The resulting gastric catarrh, diarrhœa, and severe cerebral symptoms or ascites, are incurable.

HEPATIC HYPERTROPHY.—From 'Ηπατικὸς, affecting the liver; 'Υπὲρ, in excess; τρέφω, to nourish.—Hypertrophy of liver characterised by an increase in the secreting cells, causing general enlargement of the gland. Hepatic cells may be increased in size, or multiplied in number.

Arises from long-continued congestion, such as occurs in residents of tropical climates or of malarious districts. Sometimes found in leucocythemia, phthisis, dysentery, saccharine diabetes, &c. Partial hypertrophy may be of a compensatory nature—*i.e.*, a portion of gland having been rendered useless by disease, the healthy part has its cells enlarged so as to prevent systemic derangement.

HEPATIC TUMOURS.—From 'Ηπατικὸς, affecting the liver; *Tumor* (tumeo), a tumour.—The most significant new formations having their seat in the liver are the hydatid tumours and cancerous infiltrations (see *Hepatic Cancer*). There are, however, two or three other growths which may be met with.

1. Cystic Tumours.—Encysted knotty tumours, containing a cheese-like substance, are found in the glandular substance, varying in size from that of a large pea to a small potato. They have their origin in inflammation of mucous lining of hepatic ducts. Steatomatous contents composed of irregular granules, free oil globules, and occasionally plates of cholesterine.

Simple serous cysts, with clear watery contents, are sometimes scattered through the liver. Seldom larger than small beans.

Sacculated cysts, containing a glairy fluid, may be met with. Very rarely, the liver has been crowded with such cavities.

2. Erectile or Cavernous Tumours.—Commonly found on upper surface of the gland, especially in bodies of aged persons. They are developed in the hypertrophied connective tissue. On the surface, they look like dark blue coloured spaces, varying in size from that of a pea to a fowl's egg; on cutting into them, a tissue is found resembling that of the corpora cavernosa of penis, containing dark blood.

3. Tuberculosis.—Tubercular deposits in liver more common than was supposed, but very inconspicuous; probably never occur primarily, but always in connection with far-advanced tuberculosis of other organs—especially of abdominal viscera. Deposit takes place over all parts of the gland, especially on the surface, in shape of semi-transparent miliary granules, or as yellow caseous deposits. Patient usually succumbs to constitutional affection before stage of softening sets in.

4. Hydatid Tumours.—From 'Υδατὶς, a vesicle. Synon. *Echinococci of the Liver.*—Hydatid tumours occur in the liver more frequently than in any other organ. They are occasionally met with, however, in subperitoneal connective tissue, spleen, omentum, muscles of heart, brain, kidneys, lungs, ovaries, and bones—particularly the tibia.

These growths consist of a sac formed by condensation of surrounding structures lined by a bladder or cyst, which is filled with a limpid salt fluid; floating in which are usually found numerous small bladders which contain the entozoon known as the echinococcus ('Εχῖνος, a hedgehog, and κόκκος, a berry). Hence, the term "echinococcus cysts" is sometimes used synonymously with "hydatids." The echinococci are immature tapeworms—the scolices or embryos of the Tænia echinococcus which infests the dog and wolf.

SYMPTOMS A hydatid tumour in the liver grows slowly. May give rise to little inconvenience beyond a sensation of weight. When large, it is easily detected: volume of liver increased. Occasionally, fluctuation: in exceptional cases, a peculiar vibratory sensation—hydatid fremitus. If the cyst inflame, violent pains. Sometimes compression of portal vein or vena cava, causing ascites and œdema of legs.—Cyst may burst into peritoneum, causing fatal peritonitis; or into base of lung, hydatids and puriform matter being expectorated; or into hepatic duct, whence contents may pass through common duct into duodenum. More fortunately it sometimes bursts directly into intestines, or through abdominal wall. May also undergo spontaneous cure, without rupture; by death of hydatid, when cyst may contract and contain thick putty-like matter.

TREATMENT. Surgical. Electrolysis. Removal of fluid contents by tapping. This generally sufficient except when there are numerous secondary cysts. If not, injection of solution of iodine; or of diluted alcohol; or of weak solution of carbolic acid after tapping; insertion of drainage-tube after tapping. Careful incision, with antiseptic precautions, provided cyst be adherent to integuments, which should be secured, exciting inflammation by applying caustic potash to the abdominal wall. Incision and free evacuation of contents usually required when there are secondary cysts or suppuration has taken place.

HEPATITIS.—From Ἧπαρ, the liver: terminal *-itis*. Inflammation of the liver has to be considered under five heads:—(1) Hepatitis, or inflammation of peritoneal investment, or of substance of the gland, or of both combined. (2) Cirrhosis, or that slow form of inflammatory action which affects the connective tissue. (3) Syphilitic hepatitis. (4) Inflammation of the bloodvessels. (5) Inflammation of biliary ducts and gallbladder.

1. Hepatitis.—Occasionally only the coats of liver and Glisson's capsule become inflamed (*Peri-hepatitis*). More commonly, substance of gland attacked. The morbid action may be diffused over whole organ (*Hepatitis diffusa parenchymatosa*); and it may lead to softening and acute atrophy, or to induration. Generally inflammation more circumscribed (*Hepatitis vera circumscripta, suppuratoria*); and then abscess is a frequent result.

SYMPTOMS. Tenderness over gland: most marked if peritoneal investment be affected. High fever, sometimes assuming an adynamic form. Fulness of right hypochondrium: increased dulness on percussion. Pain increased by pressure, cough, deep inspiration: inability to lie on left side. Yellow tinge of conjunctiva: rarely jaundice. Dyspnœa, cough, vomiting, headache, hiccup. Pains in right clavicle and shoulder: probably, when left lobe of liver suffers, pains in left shoulder.

Formation of abscess signalized by chills, or distinct rigors. Hectic fever. Gastric disturbance. Pain and great tenderness. Tension of abdominal muscles on palpation. Feeling of weight about liver. Emaciation. Prostration. Diarrhœa or dysentery.

Treatment. Sulphate of soda and taraxacum, 144. Aloes, gentian, and potash, 148. Small doses of blue pill and ipecacuanha, calomel, chloride of ammonium. Acid tartrate of potash. Salines, 348. Opium. Opium and ipecacuanha, 324. Opium and belladonna, 344. Ipecacuanha, morphia, and astringents where there is dysentery. Poultices and fomentations. Compress with dilute nitro-hydrochloric acid and water.—Restricted diet. Indian sarsaparilla and barley water drink, 20. Acid tartrate of potash drink, 356. Complete rest in bed.

If abscess occur:—Bark and ammonia, 371. Mineral acids and bark, 376. Nitro-hydrochloric acid, 378. Quinine, 379. Quinine and steel, 380. Opium. Wine. Nourishing food. Tropical abscesses are single and large, pyæmic multiple, and generally fatal. If surface of abscess have become adherent to abdominal parietes, free incision with antiseptic precautions and insertion of drainage tube or puncture with trocar and cannula, after exploratory puncture with grooved needle. Aspiration has been found very successful. Some authorities prefer allowing abscess to burst spontaneously.

Remedies sometimes employed:—Tartarated antimony. Calomel. Iodide of potassium. Colchicum. Digitalis. Bloodletting. Leeches. Blisters. Issues.

2. Cirrhosis.—From Κιῤῥὸς, yellowish; because on slicing the liver it presents the greyish-yellow colour of impure beeswax. Synon. *Interstitial Hepatitis: Granular Induration of Liver; Hob-nailed Liver; Gin-drinker's Liver.*—Chronic inflammation and hypertrophy of connective tissue pervading and covering liver. The gland becomes abnormally firm, and subsequently contracted; the contraction of thickened connective tissue causing the capsule to be drawn in, so that the surface of the liver has a "hob-nailed" appearance. As it is a common result of spirit-drinking, it is sometimes known as *Gin-drinker's Liver*. Sometimes occurs in young, and independently of alcohol. Two varieties, atrophic and hypertrophic.

Atrophic.—Symptoms. Few and obscure until effused fibrin begins to interfere with flow of portal blood, and secretion and escape of bile. Slight enlargement of gland: as fibrous tissue contracts and lobules atrophy, the gland diminishes in size. Hypertrophy of spleen. Pain in right hypochondrium: indigestion, flatulence, constipation: occasional feverishness: dry and rough skin; unhealthy sallow look. After an interval, debility with loss of flesh. An increasing contraction of effused lymph obstructs portal circulation, ascites. Jaundice, occasional but not common. Dilatation of veins in abdominal walls. Hæmorrhage into stomach and intestines. Sometimes an attack of hæmatemesis has constituted one of earliest symptoms, and caused death before disease has been suspected. Increase of dropsical effusion. Death from exhaustion: or from some intercurrent attack of pneumonia, peritonitis, jaundice and toxæmia, or diarrhœa.

Hypertrophic.—Occasionally runs a more rapid course, attended with feverishness, jaundice, anorexia, vomiting and constipation. Liver very large, rather tender; tongue foul and breath offensive; there may be hæmatemesis or melæna. Usually fatal in six or eight weeks.

TREATMENT. *At commencement*:—Disuse of all alcoholic drinks, coffee, curry, and highly seasoned dishes. Plain animal food, milk, fish, &c. Sulphate of magnesia, 141. Sulphate of soda, 143. Resin of podophyllum, 160. Acid tartrate of potash and taraxacum, 194. Factitious Carlsbad waters, 181. Waters of Carlsbad, Marienbad, Kreuznach. Iodide of potassium, 31. Quinine and iodide of iron, 382.

When degeneration of hepatic cells has far advanced:—Nitro-hydrochloric acid, 378. Pepsine and nux vomica, 420. Ox-gall. Rhubarb and bitters, 370. Inunction of hepatic region with compound iodide ointment: red iodide of mercury ointment.

For checking hæmorrhage:—Free purgation by salines to relieve the portal congestion. Astringents sometimes recommended, but value doubtful; such as gallic acid, 103; turpentine, 50, 102; cinnamon and nitric acid, 104; aromatic sulphuric acid and opium, 100. Cold drinks useful: ice. Bladder of ice over abdomen.

For ascites:—Squills, digitalis, and juice or decoction of broom, 319. Buchu and cream of tartar, 222. Nitre, juniper, and nitrous ether, 221. Solution of potash and digitalis, 220. Benzoate of ammonia, 215. Elaterium, 157. Calomel and jalap, 159. Morphia, chloroform, and Indian hemp, 317. Tapping. Nourishing food: milk, raw eggs, stimulants.

3. Syphilitic Hepatitis.—Generally accompanied with other tertiary symptoms of venereal infection. Three varieties:—(1) Simple interstitial hepatitis and peri-hepatitis. (2) Hepatitis gummosa; in which white depressions, like cicatrices, are found to contain yellowish nodules of a rounded form and dried appearance, varying in size from a linseed to a bean. And (3) as waxy, amyloid, or lardaceous degeneration.—All three forms may co-exist, or either may be present independently of the others (Frerichs).

SYMPTOMS. Those produced by first and second varieties seldom very striking: while one portion of gland becomes unfit for its functions, the cells of healthy part get hypertrophied. Syphilitic cachexia. Enlargement of spleen. Sometimes albuminuria.

TREATMENT. Iodide of potassium, 31. Corrosive sublimate, 27. Green iodide of mercury, 53. Red iodide of mercury, 54. Mercurial vapour bath, 131. Nourishing food. Rest from mental and bodily labour: country air. Where there is renal disease,—iodide of iron, 32.—See *Hepatic Degenerations*.

4. Diseases of Bloodvessels.—*Hepatic artery and its branches* may be involved in liver disease,—in cirrhosis, cancer, tubercle, &c. ; or canal of artery may become obstructed ; or there may be atheroma of the coats, or aneurismal dilatation.

Portal vein may have its channel obstructed by coagula.—Sometimes ruptured, from fatty degeneration of coats.—Inflammation, ulceration, or suppuration of viscera in which the roots of this vein have their origin, may produce suppurative disease of vein itself. Chief features of suppurative pyle-phlebitis are headache, violent fever, great prostration, rigors, profuse sweating, pains in epigastrium or right hypochondrium, bilious diarrhœa, jaundice, enlargement of liver and spleen ; followed frequently by symptoms of peritonitis, occasionally by metastatic purulent deposits in liver or lungs or joints ; and terminating in fatal exhaustion or coma. Remedies of little avail: quinine and opium to subdue rigors and pain. Milk and raw eggs. Solution of beef, 2. Demulcent drinks, 19.

Hepatic veins usually found enlarged after death from valvular disease of heart.—Rarely the seat of adhesive inflammation.—Suppurative pyle-phlebitis more common, as a consequence of abscess of liver. Blood-poisoning generally ensues, and death.

5. Inflammation of Biliary Passages.—The biliary ducts and gall-bladder may be attacked by different forms of inflammation :—(1) *Catarrhal* inflammation, in which secretion of mucus is increased, and soon becomes viscid or muco-purulent. Sometimes the cystic or common duct becomes temporarily obstructed by a firm plug of mucus. The morbid action generally has its origin in catarrh of stomach and duodenum. (2) In *exudative* or *plastic* inflammation there is either a firm fibrinous or a croupal product. This forms casts of the tubes, blocking them up and leading to dilatation. (3) *Suppurative* inflammation leads to formation of pus and a thick kind of mucus tinged with bile. Ulceration may occur, and numerous small abscesses may be found in the ramifications of the ducts : ulceration of gall-bladder often found, together with gall-stones: may be induced by decomposing bile, where there are no calculi.

SYMPTOMS. Very variable in severity. Gall-bladder, cystic, and common ducts more obnoxious to inflammation than hepatic ducts, because the former are more likely to be irritated by gall-stones and unhealthy bile.—In catarrhal inflammation there is slight tenderness, tightness about epigastric and right hypochondriac regions, nausea, mild fever, and constipation. The most characteristic symptom is : jaundice, viscid mucus choking up many of the ducts ; ending with salutary diarrhœa as pent-up bile finds its way into duodenum.—Undue retention of bile in gall-bladder, from any cause, may lead to decomposition : hence irritation and inflammation, perhaps ending in suppuration and ulceration and even perforation.

Dilatation of biliary passages may occur from their origin in plexiform network in which hepatic cells lie, to termination of common excretory duct of liver and gall-bladder in duodenum. Generally, expansion only partial. In any case, it may arise from habitual accumulation of inspissated bile; compression of ducts by tumours or by disease of the parenchyma; inflammatory swelling of mucous lining diminishing calibre of tubes, and so leading to retention of their secretions as well as of bile; and from obstruction by calculi, catarrhal or croupy exudations, &c. Owing to obstruction of duodenal orifice, the ductus communis choledochus has become as large as small intestine. When the gall-bladder cannot get rid of its contents in consequence of occlusion of cystic duct, the residuary bile may be absorbed; but if lining membrane continue to secrete mucus, dropsy of cyst must result. If obstructing substance act like a valve, permitting ingress of bile but preventing egress, a large pear-shaped or globular tumour may form, containing some pints of fluid. Rupture of bladder has been prevented by tapping: can be safely performed provided there are adhesions to abdominal wall, or by means of aspirator without.

TREATMENT. Active remedies have probably only an injurious effect. Recovery may be aided by a restricted diet, and especially by use of liquid food, such as milk; warm baths; simple aperients if there be constipation; astringents if there be undue diarrhœa. Fomentations and sedatives to relieve pain; rubbing with moderate pressure. Phosphate and carbonate of soda with much water; simple diluents or salines for fever and thirst: digestible restorative food, with ammonia and bark, if there be exhaustion.

Where catarrhal inflammation becomes chronic, and customary discharge of bile does not occur,—Nitro-hydrochloric acid, 378. Benzoic acid, 49. Benzoate of ammonia, 215. Hydrochlorate of ammonia, 60. Waters of Carlsbad, Marienbad, Selters, Kissingen, &c.

Remedies sometimes employed:—Leeches to anus: to hepatic region. Blisters. Calomel. Blue pill. Taraxacum. Resin of podophyllum. Tartarated antimony. Iodine. Iodide of potassium. Iodide of zinc. Nitric acid. Purified ox bile. Nitro-hydrochloric acid baths. Turkish baths.

HERNIA.—From Ἔρνος, a branch or sprout; because in this affection the whole or a part of an organ shoots out from its natural position. Synon. *Rupture*.—A tumour formed by the protrusion of more or less of an organ or structure from its normal site. Thus, there may be hernia of the brain, iris, mucous lining of windpipe through rings of trachea, lung, liver, spleen, bladder, uterus, ovaries, omentum, and intestine. When, however, the term "hernia" stands alone it signifies a protrusion of omentum or intestine through some abnormal opening in abdominal walls; in which sense it is here considered. The structures most liable to protrusion are,—small intestines, omentum, and arch of colon. The most frequent sites are,—inguinal and crural canals, and the umbilicus.

A hernia is composed of a *Sac* and its *Contents*. The sac consists of the parietal layer of peritoneum : is always present save in herniæ following penetrating wounds, in some cases of congenital umbilical hernia, and in cases where protruded part is only partially covered by peritoneum (as the cæcum); and it has a *neck* which is often the seat of constriction in strangulated herniæ, and a *body* which is usually pyriform or globular. When the sac only contains intestine, the rupture is termed an *Enterocele ;* when only omentum, an *Epiplocele ;* when both, an *Entero-epiplocele.*

A hernia is at first *Reducible*,—the contents of the sac can generally be pushed back into abdominal cavity, though the sac itself rapidly becomes adherent to connective tissue. After reduction of the hernia, place a pad over the hernial aperture and retain it in place (by a spica bandage in inguinal or femoral hernia). Order a truss, noting to the instrument maker :—1. The kind of hernia. 2. Age and sex of patient. 3. Right or left. 4. The size of hernial aperture. 5. The girth round the pelvis midway between the iliac crest and the great trochanter. Lighter truss to be worn at night ; vulcanite truss for bathing. Radical cure may be desirable, either by invaginating sac and fascia and stitching together the sides of the aperture (J. Wood), or ligature of neck of sack, which is then cut away and the ring sewn up (Banks). This operation can be performed on inguinal, femoral or umbilical herniæ.

Irreducible hernia,—protrusion generally large, of long standing, and often consisting of thickened omentum and of intestine and mesentery. If left alone, there is a tendency to gradual increase : to prevent this, if hernia be not too large, it may be supported and protected by a truss with a large concave pad; if of great size, a suspensory bandage ought to be worn. *Inflammation*, simulating strangulation, sometimes occurs in these herniæ : the treatment must consist in use of opium, fomentations and perfect rest.

Incarcerated or *Obstructed* hernia is an irreducible hernia which has become temporarily obstructed from accumulated flatus or some undigested matters in an angle of the gut ; generally occurs in the aged. The constipation is to be removed by purgative enemata, 189, 191 : ice may be applied : the taxis to be used to empty incarcerated gut of its contents, or the aspirator may be employed.

In strangulated hernia the portion of protruded omentum or intestine is so tightly constricted that neither can it be reduced nor can circulation be carried on by its bloodvessels, consequently the passage of fæces is arrested, the return of blood from the strangulated portion is prevented, and gangrene soon occurs if relief be not afforded. The symptoms are those of obstruction of the bowels. The treatment consists in recourse to the *taxis*,—the attempt to return the protrusion by manipulation, without undue force. If this fail induce anæsthesia with chloroform, and apply the taxis again, being prepared to operate if the attempt should fail. If the symptoms continue after reduction they may be due to,—the hernia having been pushed back, *en masse*, sac and all; or there may have been a double strangulation, the taxis having failed to relieve the stricture within the sac; or the constriction may have been so great that gangrene has been set up. But the taxis failing to effect reduction, one of two operations becomes necessary without delay:—an incision is made over the neck of the tumour, the sac exposed and opened, and the stricture divided from within; or the sac is to be left entire, the stricture being divided outside.

The special herniæ are:—(1) *Oblique inguinal hernia*, in which the protrusion originates at internal abdominal ring, traverses entire length of inguinal canal, and usually passes out at external ring.—(2) *Direct inguinal hernia* passes through a triangular space on inner side of epigastric vessels, bursting through or pushing before it the conjoined tendon of internal oblique and transversalis muscles, and presenting at external ring gradually makes its way into scrotum or labium.—(3) *Congenital hernia* descends into the funicular process and tunica vaginalis, both being congenitally patent, coming into contact with the testis.—(4) *Funicular hernia*, where the hernia descends into the open funicular process, but does not enter the tunica vaginalis, which is cut off from the process just above the testicle.—(5) *Infantile hernia*, where the funicular process is patent, but cut off from the peritoneal cavity by a septum at the internal abdominal ring. The hernial sac passes behind the process.—(6) *Encysted congenital hernia*, where the septum at the internal ring yields to the pressure of the hernia, which descends (covered by a sac formed by the septum) in the unobliterated funicular process. Varieties 3 to 6 are always oblique, following course of spermatic cord.—(7) *Femoral or crural hernia* is that which escapes under Poupart's ligament through the crural ring, and enters the sheath of the vessels internal to the femoral vein. After passing through the saphenous opening of the fascia lata it turns up over the falciform process, instead of descending on the thigh.—(8) *Umbilical hernia* protrudes through the umbilical aperture. Not uncommon in infants, and in women who have borne many children.—(9) *Ventral herniæ* are such as protrude through any part of the abdominal parietes, except the inguinal or femoral or umbilical apertures. Most frequent through the linea alba, sometimes occurs after abdominal operation, or ovariotomy, &c.—(10) *Obturator hernia* passes through the opening in obturator membrane which gives exit to the artery and nerve. Very rare, and very difficult to diagnose during life.—(11) *Ischiatic hernia* escapes through the great sciatic notch.—(12) *Perineal hernia* descends between rectum and bladder, forming a protrusion in perineum.—(13) *Vaginal hernia* gives rise to a tumour which protrudes through the posterior wall of vagina.—(14) *Labial hernia* presents a tumour in one of the labia and along the side of vagina.—(15) *Diaphragmatic hernia* results from a wound or from congenital deficiency of a portion of the diaphragm. The stomach or transverse colon, with a large portion of omentum, may escape through such an opening and form a large tumour in thoracic cavity.—(16) *Lumbar hernia* between certain muscles in the loin.

HERPES.—From Ἕρπω, to creep. Synon. *Tetter*. A transient non-contagious skin disease, consisting of clusters of vesicles upon inflamed patches of irregular size and form. Eruption runs a definite course; with one exception, rarely continues for more than three or four days; it is not usually severe, and leaves no scar.

VARIETIES. *Herpes labialis*, often forms on upper lip during a cold.—*Herpes preputialis*, occurs on foreskin; vesicles run into each other, producing an excoriation covered with a scab; when on the labia or mons veneris of female is called *H. progenitalis*. Herpetic ulcers not to be mistaken for primary syphilis.—*Herpes zoster*, *zona*, or *shingles*, sometimes very troublesome; frequently attended with severe stinging pain. Inflamed patches with their clustered vesicles follow the course of a nerve, most commonly one or more of the intercostals, and arranged in form of a band, encircling half the circumference of the body; may occur on limbs along the course of any nerve.—*Herpes ophthalmicus*, not uncommon. Groups of vesicles along branches of superior division of fifth nerve. If nasal branch affected, the eyeball to which it supplies branches will be inflamed. May resist treatment for a few weeks. Often followed by neuralgia, especially in old people.

TREATMENT. Attention to bowels. Regulation of diet. Vesicles may be pricked, and sponged with warm water or dilute solution of subacetate of lead. Oxide of zinc, or subacetate of lead ointment. Painting with belladonna or aconite liniment, where there is pain. In obstinate forms, quinine and arsenic, 52. For neuralgia following shingles,—Steel and arsenic. Quinine. Iodide of iron. Nourishing food. Chloral gr. 10—20.

HICCOUGH.—Synon. *Singultus; Hiccup*.—A short convulsive and noisy inspiration, followed immediately by expiration. It is due to the sudden and involuntary and momentary contraction of the diaphragm, with the simultaneous narrowing of the glottis. Frequently a warning of great danger in severe diseases: often a symptom of irritation or inflammation of the digestive organs; occasionally a product of hysteria: sometimes a mild idiopathic affection. Most common during infancy and old age. The convulsive inspirations produce pain about the præcordia. Paroxysms of hiccough recurring at short intervals, and continuing for some days, are occasionally the cause of great exhaustion.

TREATMENT. *Idiopathic*:—In mild cases hiccough may perhaps be checked by taking a set of deep inspirations, and then holding the breath as long as possible, so as to keep the diaphragm contracted. A belt firmly applied round epigastrium. Use of sternutatories to provoke prolonged sneezing. Emetic.—In severe forms,—Ammonia. Peppermint. Camphor. Ether. Mulled port wine, or hot brandy and water with spice. Cajuput oil or chloroform on sugar. Hypodermic injection of morphia. Belladonna. Tincture of nux vomica. Inhalation of chloroform or ether. Opium. Bromide of potassium. Ice, or iced water. Blisters; sinapisms; turpentine stupes; dry cupping; wet compress; belladonna, aconite, chloroform, or opium liniment; either agent to be applied to back and sides, in neighbourhood of attachments of diaphragm.—*Dyspeptic*:—Emetics. Mild warm aperients, or enemata of castor oil, &c. Draughts of ammonia, bicarbonate of potash, and peppermint water. White bismuth. Creasote. Ipecacuanha. Sinapisms.—*Hysterical*:—Assafœtida. Sumbul. Musk. Valerianate of ammonia, quinine, iron, or zinc. Ferruginous tonics. Shower baths. Galvanism.—*Intermittent*:—Quinine, arsenic.—*Infantile*:—Dill water (aqua anethi). A few drops of brandy in hot sugared water. Warm bath. Attention to quantity and quality of milk or other food.

HODGKIN'S DISEASE.—*Lymphadenoma.*—Hyperplasia of lymphatic glands and growth of lymphatic tissue in various organs. No increase of white blood corpuscles; otherwise similar to leukæmia. Red corpuscles diminished considerably. May occur in any lymphatic structure. Common in spleen, liver, kidneys, lungs, stomach, bones, muscles, and subcutaneous tissue.

SYMPTOMS. Anæmia, slight pyrexia, debility, dyspnœa, hæmorrhage from nose, gums, &c. Œdema of extremities or effusion into cavities and consequent ascites, hydrothorax, hydropericardium, &c.

TREATMENT. Arsenic. Phosphorus. Iron. Quinine. Cod-liver oil. In some cases excision of glands.—(See *Adenoma*, *Leukæmia*.)

HOOPING-COUGH.—Synon. *Pertussis; Tussis Convulsiva; Bronchocephalitis; Chincough.*—An infectious disease, especially of childhood; rarely occuring more than once in same individual. Attended with slight fever and vomiting; and accompanied at first by catarrh, and subsequently by a peculiar cough which occurs in paroxysms at uncertain intervals.—Duration from two or three weeks to as many months.—Probably due to some poison affecting respiratory mucous membrane. Sometimes epidemic, and frequently follows measles.

SYMPTOMS. After a latent period of perhaps six days, a simple catarrhal and slightly febrile stage of eight or ten or twenty days' duration; sometimes accompanied, but usually followed, by violent paroxysms of coughing. Restlessness from coryza, heat of skin, oppression of chest. As fever remits, the cough assumes its peculiar shrill sound or whoop. Child soon learns when each paroxysm is commencing, and is frightened. Series of coughs or expiratory efforts very protracted; suffocation seems about to set in, face purple and swollen, when relief is afforded by a long inspiratory act, the rush of air through glottis causing characteristic crowing or hooping. Directly after fit, patient regains courage; soon appears well. If paroxysm end in vomiting, which is very common, there is a craving for food immediately afterwards. There may be two or three paroxysms in a day, or as many in an hour; they are induced by excitement, crying, &c. The frænum of the tongue is often ulcerated, this being due to abrasion by the lower teeth, as the tongue is protruded violently.

Complications:—May co-exist with measles, small-pox, &c. With bronchitis, pneumonia, disordered bowels, some head affection.—Perhaps the urine occasionally contains sugar—pertussal glucosuria.—When cough is very severe, it is sometimes accompanied with hæmorrhage from nose or mouth; or from ears, with laceration of membrane of tympanum. Ecchymosis of conjunctivæ, common. May prove fatal from exhaustion due to loss of food by vomiting, or by causing pneumonia. Convulsions. Hydrocephalus. More frequently, by catarrhal inflammation of bronchi, with collapse of a portion of the lung.

TREATMENT. *Mild cases*:—Warm clothing: flannel or chamois leather jackets next the skin. Light nourishing food. Mucilaginous drinks. Confinement in doors. Friction of spine night and morning with belladonna and soap liniment, 281. Or turpentine and chloroform liniment.

Belladonna. Bromide of ammonium, 37. Chloral. Tinct. lobeliæ min. x every hour to a child two years or more. Burning sulphur in rooms inhabited by child, ten grains for each cubic foot; after five hours the doors and windows can be thrown open and the child be admitted. This should be done daily, and alternately in night and day nurseries. When food vomited, a small dose of tincture of opium to be given just before meals. Carbolic inhalations. Attention to bowels. Confinement to one room; temperature 68° F. Flannel clothing. Nutritious but easily digested food; milk, cream, fish, eggs.—*When chronic*:—Saccharated carbonate of iron. Cod liver oil. Alum (gr. 2 to 5). Removal to sea-side.

Chest complications to be treated by poultices. Cotton wool jacket. Steam kettle. Ammonia and ipecacuanha, 235, &c. Ipecacuan as emetic if bronchi loaded with mucus, 231.

HOUSEMAID'S KNEE.—Enlargement of bursa over patella, the result of pressure and inflammation from kneeling. If the inflammation be acute, put limb on a splint. Lay on ice or other cold application. If symptoms do not abate, apply belladonna and glycerine. If suppuration or sloughing occurs make free lateral incision, drain and apply boracic lint or other antiseptic application. Avoid anterior incision which leaves cicatrix on exposed parts. In chronic inflammation, iodine liniment, blisters, or ammoniacum and mercury plaster. When loose bodies can be felt in bursa make free lateral incision, press them out of bursa and treat as for suppuration.

HYDRÆMIA. — From Ὕδωρ, water; *αἷμα*, blood. Watery blood.—See *Anæmia.*

HYDROCELE AND HÆMATOCELE OF TESTIS. — Hydrocele (from Ὕδωρ, water; *κήλη*, a tumour) consists of an accumulation of serum in the tunica vaginalis, or in the cord. Hæmatocele (Αἷμα, blood; *κήλη*) is an extravasation of blood into tunica vaginalis.

1. Hydrocele of Tunica Vaginalis.—May result from injuries, orchitis, &c.

SYMPTOMS. The scrotum gradually gets distended with serum, until it forms a smooth and pear-shaped elastic and translucent swelling. The testicle may be felt near the lower and back part: the spermatic cord to be distinguished free at neck of tumour. The fluid consists of pale yellow serum: average quantity ten or twelve ounces. When chronic, the tunica vaginalis becomes thick, dense, and opaque, and swelling may not have pyriform shape.—In *congenital* hydrocele the communication between the tunica vaginalis and peritoneal cavity has not been obliterated. Apt to be complicated with congenital hernia.—In *encysted* hydrocele there are one or more cysts connected with the testis or epididymis, but not with the cavity of the tunica vaginalis. Contains a watery non-serous fluid holding spermatozoa.

TREATMENT. *Palliative:*—In children, painting with iodine often sufficient. Withdrawal of fluid by trocar. Punctures with a grooved needle: fluid escapes from tunica vaginalis into scrotal connective tissue, whence it is absorbed. Friction with diluted red iodine of mercury ointment. *Radical cure:*—Tapping, with injection of tincture of iodine (ʒj to water ℥iij), allowing the injection to remain. A moderate amount of inflammation is set up, which does not subside for two or three days. This plan failing, incise scrotum and sac and dress antiseptically, allowing sac to close by granulation.—In *congenital* hydrocele a truss to be worn, so as by pressure to close vaginal process. Iodine to scrotum. Punctures with grooved needle. Irritating injections inappropriate.—In *encysted* form, recourse is to be had to tapping with or without injection; or to seton.

2. Hydrocele of Cord.—Serum accumulates in a distinct cyst, portion of unobliterated funicular process of peritoneum. Where interference is needed, the best remedy is iodine to surface of swelling. Acupuncture.

3. Hæmatocele.—May be due to injury: sometimes arises spontaneously. The tunica vaginalis gets distended with blood: perhaps to such an extent as to compress the testicle and produce atrophy. Rest, pressure, and cold lotions sometimes effect a cure in recent cases. If there be much inflammation it may be necessary to turn out the clot by a free incision, and leave the cavity to granulate; but in old cases, where the walls of the hæmatocele are often calcified, castration is safer than incision.

HYDROCEPHALOID DISEASE.—From Ὕδωρ, water; κεφαλὴ, the head; terminal *-ides*. Synon. *Spurious Hydrocephalus.*—A form of cerebral anæmia. The early appearances somewhat resemble those due to tubercular meningitis. A fatal error to mistake spurious for real hydrocephalus.

SYMPTOMS. Weakly children the subjects of this affection, especially when exhausted by diarrhœa or some acute disease. Heaviness of head. Drowsiness. Great languor. Unhealthy stools. Alarm at strangers and slight noises. Freaks of temper. Irregular breathing. Coolness of skin. Surface of fontanelle depressed, instead of raised as in true hydrocephalus.

TREATMENT. Pure milk. Strong beef tea, or finely pounded meat. Raw meat, 2. Port wine. Bark. Steel; especially chemical food, 405. Strict avoidance of active purgatives, diuretics, and poor diet.

HYDROCEPHALUS.—From Ὕδωρ, water; κεφαλὴ, the head. Synon. *Hydrocranium; Hydrops Capitis; Water on the Head; Dropsy of the Brain.*—Met with in children of various ages, as result of many circumstances. Often congenital, and associated with some cerebral malformation. Sometimes the precursor, sometimes result, of tubercular meningitis: in this case, often spoken of as *acute* hydrocephalus. When congenital, or when arising slowly from constitutional causes, it is termed *chronic* hydrocephalus.

For acute hydrocephalus, see *Tubercular Meningitis* among cerebral inflammations.

Head attains a great size: the unossified sutures yield readily to pressure of fluid. One side may be larger than the other. Bones thin and transparent: meninges thickened. Serum usually contained in lateral ventricles, which are perhaps expanded into one large cavity: occasionally collected in sac of arachnoid, compressing brain. Quantity of fluid varies from two or three ounces to as many pints. Essentially a disease of childhood, yet occasionally adults are affected.

SYMPTOMS. Generally commence before infant is six months old: may exist from birth. Child takes food eagerly, but does not thrive: after a few weeks extreme wasting. Appearance remarkable: emaciated body, small pale face, with a large globular cranium and overhanging forehead. Head droops helplessly on one side. Intelligence usually enfeebled. Irritability and peevishness; morbid susceptibility to noise and light; liability to epileptic convulsions; great muscular weakness. Rolling movement of eyeball, which is often prominent: perhaps strabismus, or amaurosis. Headache; nausea; constipation, with dark-coloured offensive stools. Grinding of teeth. Screams on awaking.

In second stage, more stupor; pallor; slow pulse; dilatation or contraction of pupils; picking of nose and lips. In favourable cases lethargy and pallid hue and irritability gradually subside. Desire for food. Increase of muscular power. Diminution of emaciation. In unfavourable examples, excessive prostration and rapidity of pulse. Paralysis. Coma or convulsions ending in death.

TREATMENT. *Prophylactic:*—Infants with tendency to hydrocephalus to be reared so as to strengthen constitution as much as possible. Nourishing food: plenty of good milk. Salt water baths: friction of skin. Residence in pure air: sea-side. Cod liver oil. Only the most gentle attempts at education.—*Curative:*—Rhubarb and magnesia. Syrup of senna. Castor oil. Mercury and chalk. Plain but nourishing food: pure milk. Cod liver oil. Glycerine. Iodide of potassium. Iodide of iron. Quinine. Bark and hypophosphite of lime or soda. Chlorate of potash. Sea-air.

Compression of head and tapping have been strongly advocated. Compression best effected by bandaging, or by application of strips of soap plaster over whole of cranium, so as to make equal pressure on every part. Where there are no symptoms of active cerebral disease, pressure will probably do good.—Puncture is performed with a small trocar and cannula at coronal suture, about an inch and a half from anterior fontanelle, so as to avoid longitudinal sinus. The fluid is to be evacuated slowly; and as much as will flow be allowed to come away; and gentle pressure must be kept up both during its escape and afterwards for some weeks. Only to be had recourse to when other means have failed. Has proved successful in very young children.

HYDRONEPHROSIS.—From Ὕδωρ, water; νεφρὸς, the kidney. Synon. *Dropsy of the Kidney.*—Sometimes congenital. Distension of kidney with its own secretion from some obstruction to the escape of urine. Obstruction usually in ureter. In child often due to congenital absence or malformation of ureter. Calculus most common cause of unilateral variety. Cancer in pelvis; prostatic and vesical disease most common origin of bilateral variety. Kidney ultimately converted into a large pouch. Occasionally associated with suppuration of lining membrane of pelvis and calyces (*pyo-nephrosis*).

SYMPTOMS. Sometimes altogether absent; especially if distension be not very great, and other kidney remain healthy.

Hydronephrotic tumour found in loin, reaching forwards in abdomen: may be very large, with undulating feel and fluctuation, and tender to touch. Urine often natural in quantity: contains pus if there be associated pyelitis. Suppression of urine and uraemia where both glands are affected. Attacks of nephritic colic where there is a calculus.

TREATMENT. Rest. Diluents, to prevent concentration of urine. Tapping by aspirator useful for diagnosis, rarely curative; best in bilateral cases. Incision and drainage, or extirpation (nephrectomy) in unilateral forms. The latter in the hands of surgeon used to abdominal operations.

HYDRO-PERICARDIUM.—From Ὕδωρ, water; περικάρδιον, the pericardium. Synon. *Hydropericarditis; Hydrops Pericardii; Hydrocardia; Dropsy of the Pericardium.*—See *Pericarditis.*

HYDROPHOBIA.—From Ὕδωρ, water; φοβέω, to dread. Synon. *Phobodypson: Rabies; Canine Madness.*—A disease caused by inoculation with the saliva of a rabid animal. Period of incubation varies from thirty days to many months. Death often occurs before the end of fourth day from commencement of symptoms.

SYMPTOMS. Cramps of muscles of pharynx and thorax. Spasmodic action of diaphragm. Great dread of fluids. Recurrence of paroxysms of frenzy on attempting to drink, or on exposure to a current of air. A flow of viscid saliva ("hydrophobic slaver"). Pustules under tongue. Restlessness. Anxiety. Delirium. Exhaustion.

TREATMENT. *Prophylactic:*—Suction of wound. Excision of bite. Ligature above bitten part. Exposure of wound to stream of water. Nitrate of silver. Caustic potash. Actual cautery.

Curative:—Inoculation of the virus from rabid dog (M. Pasteur).

HYDRORACHIS.—See *Spina Bifida.*

HYDROTHORAX. — From Ὕδωρ, water: θώραξ, the chest. Synon. *Dropsy of the Chest.*—An effusion of serum, or of serum mixed with blood, into the cavity of the pleura. Usually a result of inflammation, but sometimes a true dropsical non-inflammatory effusion.—See *Pleurisy.*

HYPERMETROPIA.—From Ὑπέρ, in excess; μέτρον, measure; and ὤψ, the eye. Synon. *Over-sight.*—That condition in which the refractive power of the eye is too low, or the optic axis (antero-posterior axis) too short. Consequently when the eye is in a state of rest, parallel rays are not united upon the retina, but behind it, and only convergent rays are brought to a focus upon the latter (Soelberg Wells).

SYMPTOMS. Dull frontal headache often before symptoms of iling sight. A sense of heat and fulness about the eyes on ading: the print appears indistinct, and the words seem to run to each other. Distant objects not seen clearly. Eyes look aller and flatter than in health.

Hypermetropia is one of the causes of asthenopia, as well as of nvergent strabismus. Sometimes associated with presbyopia.

TREATMENT. Carefully selected convex spectacles. First st amount of latent hypermetropia by means of atropine.

HYPOCHONDRIASIS.—From 'Υποχονδριακὸς, affected in the scera under the false ribs,—because such affection was regarded the cause of melancholy. Synon. *Hallucinatio Hypochondriaca.* May be said to consist prominently of an exaggerated egoism.

SYMPTOMS. Frequently functional derangement, occasionally uctural disease of certain organs, especially of those connected th functions of nutrition and generation. Uneasy sensations us caused dwelt upon and magnified. Spirits dejected. tients morbidly sensitive of opinions and actions of others. nstantly dwelling on their miserable condition. Dread of ernal disease, impotence, insanity, death. Want of resolution. nguid circulation. Decayed teeth. To same extent that steria is peculiar to female, is hypochondriasis to male sex.

TREATMENT. Violent purgatives injurious as a rule. Action bowels to be maintained by exercise and proper diet. Nartics and sedatives increase the mischief, and check secretions. there be anæmia, quinine and steel, 379. Strychnine, or nux mica, 387, 407, 408. Phosphate of zinc and bark, 414. Hypoosphite of soda, or lime, 419. Phosphate of iron, 405. Nitrodrochloric acid, 378. Sulphate of manganese. Bromide of tassium. Cod liver oil. Shower bath. Sea bathing. Turkish th. Nourishing food. Exercise in open air. Riding on rseback. Physical training. Gymnastics. Society. Travel. ence mineral spas useful.

HYPOSPADIAS AND EPISPADIAS.—Hypospadias ('Υπὸ, under; άζω, to draw from), is a congenital malformation, in which urethra opens on under surface of penis instead of at remity of the glans.—Epispadias ('Επὶ, upon; σπάζω) is that dition in which urethra terminates on dorsum of penis, often ociated with extroversion of bladder. Either state, when ensive, may call for an attempt at cure by a plastic operation.

HYSTERIA.—From 'Υστέρια, the womb; owing to its supsed origin in this organ. Synon. *Hysteropathia; Hysterics.*—A vous disorder which occurs in paroxysms, or simulates other eases. Attacks accompanied with an abundant secretion of ne of low specific gravity: frequently with a sense as of a l rising in the throat (globus hystericus). Occasionally consions. Women from the age of puberty to the decline of nstruation most liable to it, though occasionally men are the jects of it.

SYMPTOMS. Those characterising *hysteric paroxysm* or *fit* are :—Convulsive movements of trunk and limbs ; beating of breast with hands clenched, or tearing of hair or clothes ; shrieks and screams, violent agitation ; globus hystericus, or feeling of suffocation ; attack ending with convulsive outbreaks of crying or laughter, and sometimes with hiccough. Occasionally patient falls to ground insensible and exhausted ; soon recovering, tired and crying. Perhaps, but very rarely, urine is discharged involuntarily during the excitement.

Hysterical paraplegia, or hemiplegia, sometimes occurs. There may be hyperæsthesia, or increased sensibility of various parts, perhaps leading to erroneous suspicions of pleurisy, spinal disease, metritis, or ovaritis. The opposite condition—anæsthesia, or loss of sensibility—not uncommon ; sometimes lasting for many months, affecting left side more frequently than right, so that pins and needles may be thrust into substance of affected limbs or face without causing pain. Appetite for food increased, or diminished, or depraved so that most extraordinary substances are eaten.

Hysteria stimulates almost all diseases. The favourite are :—Suppression of urine, stone in bladder, abdominal tumour, pleurisy, consumption, complete loss of voice, paralysis, epilepsy, and affections of spine or disease of joints. Hysterical cough, hiccough, or vomiting may prove very obstinate.

Hysterical women often have peculiar expression of countenance : fulness of upper lip, drooping of upper eyelids. Questions answered abruptly. Pains increased by pretended pressure. Catamenia often irregular ; more or less profuse leucorrhœa. Hysteric paroxysms sometimes induced by pressure on one or other ovary.—Sufferings not always feigned. Perhaps generally, patient believes she is grievously afflicted. Even where pins are thrust under skin, stones placed in vagina, or food refused unless it can be obtained surreptitiously, the patient is diseased. She resorts to these practices to increase sympathy of friends.

TREATMENT. *During paroxysm* :—Loosen dress. Prevent self-injury. Surround body with cool air. Ammonia to nostrils. Hand over mouth and compression of nostrils till attempts to breathe become powerful, then suddenly allow entry of air. If it can be swallowed, a draught containing a drachm of ammoniated tincture of valerian. If apparent insensibility continues, cold water douche over head and face.

In other forms, or during intervals between fits :—Aloetic aperients, 156, 393, 404. Quinine and steel, 380. Steel and glycerine, 392. Strychnine and steel, 408. Zinc and nux vomica, 409. Valerianate of zinc, or ammonia, or steel, or quinine, 410. Phosphate of iron, 405. Hypophosphite of soda, 419. Bromide of potassium, 42. Cod liver oil. Ammoniated tincture of valerian and bark. Compound pill of assafœtida. Nourishing food. Exercise in open air. Moral control. Mental occupation.

Shower baths. Sea bathing. Galvanism. Attention to uterine functions; checking catamenia if too abundant, promoting them if too scanty. Any uterine trouble to be cured.

HYSTERO-EPILEPSY.—A remarkable form of hysteria investigated and described by Charcot. Ovarian tenderness on one side, almost always present, and hemi-anæsthesia of same side, with colour blindness, restriction of field of vision, and unilateral loss of smell and taste. At intervals violent convulsive attacks, beginning with epileptoid seizure, which is followed by co-ordinated movements of extreme violence, and then often by emotional manifestations, as of terror, rage, love. Paroxysms can in many cases be provoked at will by irritating some part of the surface, and can be arrested at any step by forcible pressure on the tender ovary. The anæsthesia and colour-blindness can be removed temporarily, by the application of certain metals, or by the magnet, or by static electricity, but usually they are transferred to the other side.

For the condition itself little can be done, as it is inherent in the nervous constitution of the patient, who are easily mesmerised or thrown into somnambulism.

ICHTHYOSIS.—From Ἰχθὺς, a fish. Synon. *Xeroderma Ichthyoides; Fishskin Disease.*—A very rare, non-contagious squamous disease. Generally congenital and most common on legs. Characterized by development, on one or more parts of body, of thick and hard and dry imbricated shining scales of dirty grey colour. Unattended by heat or pain or itching. The scales or shagreen-like flakes give rise to most unsightly appearance.

TREATMENT. *Internally:*—Arsenic, 52. Donovan's triple solution, 51. Red iodide of mercury and arsenic, 55. Cod liver oil. Corrosive sublimate. Solution of potash in sarsaparilla.

Locally:—Warm baths. Alkaline baths. Vapour baths. India-rubber bandages. Collodion. Creasote lotions. Glycerine. Cod liver oil. Neat's-foot oil. Friction with olive oil.

IMPETIGO.—From *Impeto*, to attack; terminal, *-igo.* Synon. *Impetigo contagiosa; Impetigo capitis; Crusted* or *Running Scall; Pustular* or *Humid Tetter.*—A severe inflammation of the skin, scalp, face, head, or hands, sometimes contagious by inoculation of purulent discharge; characterized by an eruption of small hemispheroidal, or flattened pustules, most frequently grouped in clusters, and forming thick yellowish scabs or incrustations. From beneath incrustations a discharge flows: crusts get thicker and larger, and fall off, leaving raw surfaces.

VARIETIES. *Impetigo figurata* occurs generally on face, especially the cheeks. Attended with constitutional disturbance, and swelling of lymphatic glands. Pustules arranged in round or oval groups: as they burst and form scabs, heat and itching become intolerable. In children, impetiginous eruption sometimes covers head or face like a mask, and is called *Crusta lactea*: sometimes due to pediculi. *Impetigo sparsa* characterized by scattered pustules; perhaps irregularly distributed over a limb, or even entire body.

TREATMENT. *Internally*:—Cod liver oil. Iron. Wine, &c.

Locally:—Remove scales by oil or poultices, and apply carbolic lotion one in twenty, or white precipitate ointment diluted one in four of vaseline. Boracic ointment.

IMPOTENCE AND STERILITY.—The term *Impotence* (from *In*, neg.; *possum*, to be able) may be applied to every morbid state, in either sex, which prevents the seminal fluid of the male coming into contact with the female ovule.—On the other hand, *Sterility* (from Στεῖρος, barren) is that condition in which either no spermatozoa or ovules are secreted, or their vitality is immediately destroyed. Another definition of impotence is incompetence for sexual intercourse; of sterility, inability to produce offspring.

1. **Impotence in Man.**—The act of copulation may be rendered impossible by many causes:—By absence, or want of development, or malformation, or mutilation of penis.—By mental influences,—violent emotion, passion, over-excited desire, want of confidence, anxiety, grief, disgust; this form most curable by tact and skill on part of physician (see *Montaigne's Essays*, Book I. chap. xx.).—By fevers and other severe diseases, sexual organs remaining feeble after general health is restored; curable by ferruginous tonics, nux vomica, hypophosphite of lime or soda, sea-bathing, nourishing food, and stimulating liniments or gentle galvanism to spine.—By injuries to back part of head,—from falls, blows, railway accidents, &c.; there being generally incurable loss of power and wasting of testes and penis.—By injuries and diseases of spinal cord; which remove the power to copulate, though desire remains and semen may be secreted.—By excessive use of tobacco, which impairs digestion and weakens nervous and muscular systems; opium-eating injurious in same way.—By abuse of sexual functions removing the power of erection,—onanism, excessive intercourse (see *Spermatorrhœa*).—By excessive obesity; large scrotal herniæ.

2. **Impotence in Woman.**—May be due to:—Firm adhesions of labia pudendi.—Excessively developed and persistent hymen.—Absence, malformation, or an impervious condition of vagina (see *Vaginal Occlusion.*)—Obliteration of this canal through inflammation.—A double vagina impedes but does not prevent copulation.—Supersensitiveness, with spasmodic closure of vagina (see *Vaginismus*).—Tumours of vagina, or uterine tumours which have passed into vaginal canal.—Uterine cancer, even when vagina is involved, impedes but does not prevent intercourse and fecundation.

3. Sterility in Man.—May arise from :—Certain diseases, as tuberculosis, diabetes, albuminuria, some forms of obstinate dyspepsia : in advanced stages, secretion of seminal fluid usually stopped.—Some cerebral defect, owing to which the functions of testicles have never been called into play.—Diseases of testicles,—tumours, syphilitic sarcocele, cancer, repeated attacks of inflammation, and varicocele; though as only one gland is usually affected, these conditions rarely produce sterility.—Malposition of testes, these organs being retained in abdominal cavity; copulation being feasible with these cryptorchics but the semen ejaculated being destitute of spermatozoa.—Obstructions in the excretory ducts of testicle; such as temporary or permanent obstruction after epididymitis, power of copulating remaining but ejaculated fluid being destitute of spermatozoa.—Obliteration of ejaculatory canals from abscesses near prostate or from lithotomy, leading to atrophy of testes. Impediments to escape of semen ; such as stricture of urethra, in which ejaculated fluid regurgitates into bladder.—Abnormal openings in urethra (hypospadias and epispadias), so that the semen is not ejaculated into vagina.—Abuse of tobacco and opium and alcoholic drinks, as well as a syphilitic taint, may destroy vitality of spermatozoa.

4. Sterility in Woman.—May arise from :—Impossibility of entrance of semen into uterus. Absence of vagina or uterus. Occlusion or stricture of their canals. Tumours. Displacements, &c. Elongation of cervix uteri. Engorgement, or induration, of labia uteri. Obliteration, obstruction, or great narrowing of os uteri or cervical canal; closure of uterine cavity by tumours, cancer, &c.—Malposition of uterus,—acute retroflexion and anteflexion.—Inflammatory affections of uterus.—Impossibility of ovule getting from ovary into uterus. Absence or disease of Fallopian tubes.—Occlusion of Fallopian tubes ; disease of their fimbriated extremities.—Procidentia of uterus.—Large vesico-vaginal, or recto-vaginal fistulæ, or complete rupture of perineum, allowing improper escape of seminal fluid. Amenorrhœa.—Exhaustion or excessive general weakness.—Too frequent or imperfect sexual excitement ; self-abuse.—Impossibility of producing a healthy ovule.—Absence, arrest of development, or disease of ovaries ; only a relative, not absolute, cause, as both glands are seldom diseased at same time.—Conditions of lining of uterus destructive to semen and unsuitable for ovule.—Endometritis and consequent leucorrhœa, causing destruction of the spermatozoa before they reach an ovule.—Syphilitic taint occasionally destroys vitality of ovules.

For the treatment of impotence and sterility refer to the different diseases of the sexual organs under their appropriate heads.

INDIGESTION.—From *In*, neg. ; *digero*, to concoct or digest.—See *Dyspepsia*.

INFLAMMATION.—From *Inflammo*, to burn. A succession of changes which take place in a living tissue injured to such an extent as not at once to destroy its structure and vitality. The changes consist essentially in certain definite alterations in the vessels and the elements of the tissues around them.

SYMPTOMS. Pain. Swelling. Heat. Redness. Blood when drawn becomes cupped. Diminution of red corpuscles, and increase of fibrin: perhaps an increase of colourless corpuscles. Rise in temperatrue of the blood. Symptomatic fever. Depression. Rigors. Frequency of pulse. Headache. Thirst. Loss of appetite. Furred tongue. Diminution of chlorides in the urine. Increased excretion of urea. Sweating. Hectic fever. Excessive wasting. Prostration.

VARIETIES.—*Traumatic*, if caused by injury. *Infective*, as in pyæmia, tuberculosis, &c. *Specific*, if caused by syphilis, typhoid and certain other specific inflammations. *Idiopathic*, when the nature is not obvious.

RESULTS.—Adhesive inflammation. Suppuration. Ulceration. Sloughing. Gangrene. Hæmorrhage.

TREATMENT. *Generally*:—Withdrawal of cause. Repose. Well-ventilated sick room. Light diet. Ice and cold drinks. Tea. Milk. Belladonna. Henbane. Aconite. Opium. Chloral. Sulphonal to relieve pain and procure sleep. Salines, 348, 349, 351, &c. Aperients. Acid tartrate of potash. Citrate of potash. Colchicum. Carbonate of ammonia. Wine or brandy.

Locally:—Fomentations. Poultices. Water-dressing. Ice. Evaporating lotions. Baths. Sinapisms. Turpentine stupes. Belladonna and glycerine.

Antiphlogistic remedies:—Bleeding. Leeches. Cupping. Emetics. Drastic purgatives. Antimony. Mercury. Digitalis. Veratrum viride. Blisters. Setons. Issues. Low diet.

INFLUENZA.—From the Italian, *Influènza*; because the phenomena were thought to be due to the influence of the stars. Synon. *Rheuma Epidemicum*; *Defluxio Catarrhalis*; *Epidemic Catarrhal Fever*; *La Grippe* (in France).—An epidemic disorder attended with great depression, chilliness, running from eyes and nose, frontal headache, cough, restlessness, and fever.—Probably due to some peculiar condition of atmosphere, but spreads by contagion.

SYMPTOMS. Shivering or sense of chilliness down the back, followed by heat and dryness of skin. Urgent frontal headache: aching pains about eyes. Coryza and sneezing. Tenderness of fauces. Hoarseness. Harassing cough, and shortness of breath. Pains in back and limbs. Perverted taste, with disordered stomach. In addition, all the signs of nervous and muscular prostration. Occasionally, acute bronchitis, or pneumonia. Runs its course in less than a week: often ends in diarrhœa, or diuresis, or profuse sweating; often fatal in aged or debilitated, especially when lungs diseased.

TREATMENT. Rest in bed for first three days, in properly ventilated room. Barley water. Cold infusion of linseed, lemonade, soda water, raspberry vinegar, &c. Tea and milk. Mutton or chicken broths. In mild cases, drugs unnecessary.—*If catarrhal symptoms are urgent* :—Ipecacuanha and conium. Henbane. Ethereal tincture of lobelia. Powder of ipecacuan and opium (gr. 10 at night). Indian sarsaparilla with infusion of linseed, 243. Spirit of nitrous ether with camphorated tincture of opium, 348. Inhalation of simple vapours. Iodine, lime water, belladonna, or conium spray, 262. Sinapisms to chest. Vapour, or hot air, bath.—*When prostration is a prominent symptom, as in La Grippe* :—Ammonia and bark, 371. Warburg's tincture, Extract of beef, 1. Wine, or brandy. Brandy and egg mixture, 17. —*During convalescence* :—Bark and phosphoric acid, 376. Quinine and iron, 380. Cod liver oil. Nourishing diet: substitution of milk for tea and coffee. Great care needed to avoid catching cold. A few days' holiday in the country.

INSANITY.—From *In*, neg.; *sanus*, reasonable. Synon. *Mental Alienation; Unsound Mind; Deranged Intellect; Madness.*—No useful definition of insanity can be given. Speaking roughly, it may be said,—That it is a general term used to express the mental condition opposed to sanity; sanity being that state of mind which enables a man to discharge his duties to his God, his neighbour, and himself.

WARNINGS. Indications of impending cerebral mischief often to be detected by physician some months before they attract notice of patient or his friends. Cerebral affections not developed suddenly: often rendered incurable by neglect of treatment in early stages. Threatenings which should excite alarm are:—Headache, severe and frequent; attacks of giddiness and mental confusion; change of disposition; paroxysms of irritability, and loss of temper without sufficient cause; unfounded suspicions; inaptitude for usual occupations; weariness of life; sleeplessness, or lethargy; loss of memory; some marked deviation from usual line of conduct; defective articulation; dimness of sight; flightiness of manner; sufferer feels that he is not quite right, but does not like to consult a physician. He shuns his old friends; is tortured with blasphemous or obscene thoughts; has frightful dreams; frequently suffers from dyspepsia.

COMPLICATIONS. Mental disease often accompanied with symptoms of a variety of bodily disorders. Of all forms of insanity those complicated with general paralysis, or with epilepsy, are the most terrible.

Insanity with General Paralysis :—An affection sui generis. Sometimes spoken of as "general paralysis"; "general paresis"; or, more appropriately, as "progressive paralysis of the insane." —Due probably to selcrosis of grey matter of cortex of brain; membranes adherent, grey laminæ thin and firm.—Paralytic lunatics seldom live more than from one to three years.—The paralysis may come on in a person not previously insane, or in the course of any variety of mental disease, increasing as power of mind diminishes. The first indication is exaltation of ideas, the sufferer is rich or in high position, or wonderfully strong; sometimes great depravity; with mental change there will be usually an impediment to movements of tongue; trembling of lips; articulation muffled and imperfect. As this impediment increases, there come on tottering, uncertain, and vacillating movements in walking: sometimes impairment of locomotion precedes other symptoms. Handwriting gets changed. A heavy vacant look. Intelligence and judgment greatly lessened. Fits of irritability, hallucinations, and illusions. Loss of memory. Debasement of moral character. Pulse gets frequent and feeble. Tongue on being protruded curves tremulously from side to side. Pupils often of unusual size, and their mobility lessened. Pulse small and long, and vascular tension unduly great. Excretions escape involuntarily, either from want of attention, or from paralysis of sphincters. Apoplectiform seizures, attended with convulsions or coma, sometimes followed by hemiplegia, not uncommon; though they generally pass off after use of stimulating enemata, and removal of any collection of hardened fæces. —As disease progresses, patient becomes unable to articulate a single word; he continually grinds his teeth; the weakness is such that he cannot walk or stand; all traces of intelligence get abolished; he remains motionless and insensible, the torpid existence being reduced to a kind of slow death.—Calabar bean has appeared to be of great service, but generally all that can be done with remedies is to give sleep, relieve painful symptoms, and support strength. Henbane, in twenty-grain doses, may be useful. Nourishing diet. Warmth. Cleanliness. Attention to bowels and bladder.

Insanity with Epilepsy:—Always incurable. Conduct of insane epileptics most ferocious; homicidal, or suicidal. Filthy and disgusting in their habits. Residence in a well-ordered asylum does much to induce a certain amount of mental tranquillity. Good diet, and daily exercise, contribute to physical improvement. Bromide of potassium is said to reduce the frequency of the fits, and to soothe nervous irritability. If early death do not result, disease usually subsides into incurable dementia.

VARIETIES. Differences between various forms of insanity always imperfectly marked. Descriptions in books extraordinarily distinct, compared with medley of symptoms in real cases. Various forms frequently run into each other.

(1) *Mania* (Μαίνομαι, to rage), or *raving madness*:—Characterized by general delirium. Reasoning faculty, if not lost, is disturbed and confused. Ideas abundant, erroneous, absurd, wandering. Manner violent, excited, mischievous.

Rarely comes on suddenly, though it does so more frequently than other varieties. Premonitory symptoms:—Neglect of family and business. Distrust of relatives. Causeless attacks of anger and despondency. Insomnia. Constipation.—Disease sets in with general delirium and extreme fury. Tendency to suicide. Shouting, howling, laughing, reciting, &c., for hours together: angry, furious, destructive, ceaseless movements. Weakness, exhaustion, emaciation. Want of sleep. Aversion to food. Incontinence of urine.—Recovery preceded by sleep, desire for food, with a gradual cessation of agitation and delirium.

(2) *Monomania* (Μόνος, alone; *μαίνομαι*, to be furious,—irrationality on one subject only), or *partial insanity*:—That form in which the understanding is deranged to a certain degree, or is under the influence of some one particular delusion. Mind, vigorous: ideas few, erroneous, fixed, not under control. Manner, in accordance with predominant idea. A false principle seized upon, which is pursued logically, and from which legitimate consequences are deduced. Thus a monomaniac insists that his body is made of glass; and impressed with this idea he takes care to avoid rough handling, lest he should be broken. Or, in belief that he is a divine instrument of vengeance, he may commit murder. Aside from his partial delirium, he will reason and act like other men; so that the insanity is often difficult of detection.

There are particular forms of monomania:—*Melancholia* (Μέλας, black; χολή, bile), or *lypemania* (Λύπη, sadness; *μανία*), is characterized by fear, moroseness, and great despondency; an unwillingness to move, talk, or take food, &c.—In *autophonomania* (Αὐτοφόνος, a self-murderer) there is a desire for suicide; to effect which, melancholics will take most extraordinary steps.—In *androphonomania* ('Ανὴρ, a man; *φονεύω*, to kill) there is an uncontrollable tendency to murder.—*Pyromania* (Πῦρ, fire) is marked by a propensity to set buildings on fire.—An irresistible desire to steal is known as *kleptomania* (Κλέπτω, to steal).—In *erotomania* ("Ερως, love) amatory delusions rule, just as religious delusions predominate in *theomania* (Θεὸς, God), or religious melancholy. Erotomania may be an excessive degree of a chaste and honourable affection; or it may be combined with *nymphomania* (Νύμφη, the nympha) in women, or with *satyriasis* (Σάτυρος, a satyr) in men. In all forms of erotomania there is a great mental and bodily depression; women suffer most frequently, especially the single; and the phenomena are often connected with some disease of sexual organs.

(3) *Dementia* (*De*, priv.; *mens*, the mind), *incoherence*:—That condition in which weakness of intellect, induced by accident or age, is the prominent feature. Mind, altogether feeble; ideas confused, vague, wandering; memory much impaired. Patients ignorant of time, place, quantity, property, &c.: forget immediately what they have just seen or heard. Manners undecided, childish, and silly. The demented have neither affections nor aversions, nor care for anything. Paroxysms of restlessness and excitement. Little or no control over bladder and rectum. In last stage, complete paralysis.

Acute dementia sometimes comes on suddenly in the young from shock or anxiety, &c. Patient lies in bed, takes no notice, refuses food, passes excretions under him. Mental faculties apparently in abeyance. Pupils large. May be cured by feeding and moral influence.

(4) *Idiocy* (*Idiota*, a simpleton):—Two types, the torpid or apathetic; the lively and excited. Characterized by partial or complete absence of intellect, owing to congenital imperfection of brain. Mind not developed; ideas simple or few. Manners foolish; transient gusts of passion. Head small, too large, or misshapen. Countenance vacant. Articulation and gait often imperfect, and perhaps saliva dribbling. Occasionally, the idiot is a blind deaf-mute.

Imbecility is a mental state removed a degree from idiocy.—See *Cretinism*.

TREATMENT. *Prophylactic*:—Rest of mind, or change of occupation: proper amount of sleep. Attention to functions of sexual system, skin, liver, kidneys, alimentary canal. Removal of any bodily disorder.—Henbane. Stramonium. Indian hemp. Digitalis. Morphia, or opium. Bromide of potassium. Quinine and steel. Syrup of phosphate of iron. Phosphate of zinc. Bark. Cod liver oil. Nourishing food: milk: stimulants with discretion. Change of air and scene.

Curative:—All antiphlogistic remedies badly borne. Removal of other disorders,—skin diseases, uterine disturbances, syphilitic taints, gout, ague, gastric and intestinal disturbances, &c. Then, in ordinary forms of insanity, a nutritious diet; warm clothing; out-door occupations and amusements; cheerful recreation. Sleep at night to be procured by sedatives. Healthy evacuations to be obtained from bowels by vegetable alteratives, and mild aperients. General strength to be improved by tonics. All bad habits, as onanism, to be prevented. Gentle and slow attempts to revive affections, and strengthen bewildered intellect. Baths often useful,—douche, shower, warm, or Turkish. Cold to head. Packing. Warm bath with mustard added may produce sleep. Where food is refused, any derangement of stomach or bowels to be removed, and healthy evacuations procured; this failing, forced alimentation, with stomach-pump, or tube passed through the nose, will be required. All harshness and mechanical restraint to be avoided. Unfortunate patient's confidence to be obtained; every promise that is made must be kept; as much indulgence as possible to be allowed. Removal of patient from the surroundings under which insanity arose.

Restraint in a well-managed asylum, often necessary to enable treatment to be effectually carried out; imperatively called for, when patient has suicidal or homicidal tendencies. Suicides should be especially watched in a morning.

Medical Treatment.—Opium, gr. 1 or 2 twice a day, in mental hyperæsthesia. If it constipates add aloes or podophyllin. If the face is pale, pulse weak, and there is restless activity and want of sleep, give opium or morphia. In maniacal excitement or melancholia with excited circulation, tinct. digitalis, min. xxx every three or four hours. In epileptic mania or sexual excitement give bromide of potassium with or without henbane. Cannabis Indica. Tinct. hyoscyamus, ʒss—ʒj. Chloral. Tonics. Quinine and iron. In diarrhœa, acetate of lead and opium, or starch and laudanum enemata. In melancholia with constipation, quinine, iron, and sulphate of magnesia, 166.

INSECTS, POISONOUS.—These may be divided into insects with true stings, insects with a proboscis which, inserted into the skin, cause irritation, possibly from some poison, and carrion-eating insects with mandibles, which may inflict poisoned bites. In this country the stinging insects are the wasp, hornet, and some bees. Amongst insects with a proboscis that may inflict troublesome bites are the gnat (*Culex*), the midge (*Chironomus*), and the clegg (*Hæmatopota pluvialis*), a well-known grey speckled fly; the female bites freely, especially in wet summer weather. Septic infection, if not other diseases, as leprosy, may be conveyed by gnat-bites. Several beetles with long bodies and short elytra (*Staphylinidæ*) may inflict poisonous bites, causing diffuse cellulitis, as they feed on carrion.

TREATMENT. Free application of ammonia to bite or sting. In severe stings from hornets or wasps give ammonia and alcohol internally. Look out for cellulitis in intemperate, plethoric, and otherwise unhealthy subjects.—See *Cellulitis Venenata.*

INTERCOSTAL NEURALGIA.—Synon. *Pleurodynia; Pleuralgia.*—Neuralgia (Νεῦρον, a nerve; ἄλγος, pain) may affect the intercostal, as it does the other nerves of body. Chlorotic and hysterical women most liable to it. Sometimes occurs in Bright's disease, phthisis, &c., after herpes zoster. Must not be confounded with neuritis, or with pleurisy.

SYMPTOMS. Pain of a dull and continued aching character, or sharp and paroxysmal. Sometimes lasts for weeks. Most frequently located in sixth, seventh, eighth, or ninth nerves of left side. Follows course of nerves (anterior primary branches of dorsal), extending from anterior part of thoracic wall directly backwards to vertebræ. One or two painful spots sometimes detected on pressure. Occasionally cutaneous hyperæsthesia of whole mammary or infra-mammary region. Debility. No febrile symptoms. In women, catamenia may be irregular: leucorrhœa.

TREATMENT. Quinine and aconite, 379. Quinine and steel, 380. Steel and arsenic, 399. Cod liver oil. Belladonna and aconite liniment, 281. Strips of belladonna plaster completely round thorax. Flannel bandage. Subcutaneous injection of morphia or atropine, if there are one or more sensitive spots, 314. Nourishing food. Malt liquors or wine.

INTERMITTENT FEVER OR AGUE.—From *Intermitto*, to give over for a time. Synon. *Periodic Fever.* Sometimes termed

Paludal fever, from *Palus*, a fen or marsh. Endemic. Due to a protozoon, "Hæmoplasmodium," found in marsh miasms, or emanations from soil, and not communicable from one individual to another. Characterized by febrile paroxysms, which are ushered in by rigors, and end in a critical sweat. During the remission there is good health; but at the end of a definite interval the phenomena are repeated, and this happens again and again until a cure is effected.

Three species of intermittent fever or ague—viz., *Quotidian*, *Tertian*, and *Quartan*. Tertian most common in this country; quotidian in India. When the paroxysm occurs at same hour every day, it is called quotidian ague; when every other day, tertian, though secundan would be more appropriate; and when absent for two whole days, and then recurrent, quartan. In first species the interval is twenty-fours hours; in second, forty-eight; in third, seventy-two. The time between commencement of one paroxysm and beginning of next is termed the *interval:* that between termination of one paroxysm and commencement of next, the *intermission*. In quotidians the paroxysm occurs, for most part, in morning; in tertian, at noon; in quartans, in afternoon. The first is most common in spring; the second, in spring and autumn; the third, in autumn.

Symptoms. An ague fit is composed of three stages,—the cold, hot, and sweating. The first has a duration varying from thirty minutes to three or four hours: the second rarely lasts less than three or more than twelve hours: while the third continues a few hours, and ends in complete relief. Patient comparatively well during interval.—Enlargement of spleen always present: in chronic ague becomes permanently hypertrophied—*ague cake*. Disturbance of liver and digestive organs, and sometimes chronic desquamative nephritis, consequence of repeated attacks. Chronic ague induces extreme anæmia which may be attended with œdema.

Treatment. *General rules:*—Removal from malarious district. Nourishing diet with stimulants. Aperients, or emetics, if bowels or stomach be loaded. Bicarbonate of soda or potash, with a few drops of tincture of belladonna, if bladder be irritable.

In cold stage:—Warm diluent drinks, as weak tea, white wine whey, or negus. External warmth by blankets, hot bottles to feet, hot air baths.

In hot stage:—Cooling drinks. Sponging with tepid or cold water. Light coverings. *In sweating stage:*—Diluents freely. Repose.

Curative remedies:—Quinine; 2 or 3 grains to be given every six or eight hours during the intermission, in acid infusion of roses; or a single large dose, 10 or 15 grains, just before rigor expected. In Indian intermittents, 10 or 20 or 30 grains of quinine during sweating stage. Subcutaneous injection of quinine, 379. Arsenic, 52. Salicin. Warburg's tincture. Sulphate of beberia.

To reduce the Spleen:—Quinine and iron, 380. Bromide of potassium, 42. Cod liver oil. Friction with ointment of red iodide of mercury diluted with an equal quantity of lard. Iodide of potassium ointment. Compound ointment of iodine.

INTESTINAL CONCRETIONS.—Synon. *Alvine Calculi; Intestinal Calculi.*—Calculous concretions very rare in human intestines, compared with their frequency in large ruminating animals. In man, they are more common in cæcum and colon than in other portions of alimentary canal. Concretions may consist solely of hardened fæces, with the phosphates of lime and magnesia; or of chalk or carbonate of magnesia, where these substances have been largely taken; or of hair, cotton, or paper when a depraved appetite has led to the consumption of either; or of gall-stones with layers of inspissated mucus and fæcal matter. Either kind may gradually increase in size, until there is complete obstruction of the gut. In fortunate cases, concretions have been expelled by vomiting or passed at stool. When situated in the rectum, they can be removed by the scoop. If one or more can be felt through the abdominal parietes, producing obstruction, an incision into intestine has been recommended, all other plans failing.

INTESTINAL OBSTRUCTION.—Synon. *Ileus* (from Εἰλέω, to twist or contract).

CAUSES. Excluding examples of inguinal and femoral and umbilical hernia, the causes are :—

(1) *Intermural*, or those originating in and implicating mucous and muscular coats of intestinal walls :—
  - *a.* Cancerous stricture, most common in sigmoid flexure of colon and in rectum.
  - *b.* Non-cancerous stricture, comprising—
    1. Contractions of cicatrices following ulceration.
    2. Contractions of walls of intestine from inflammation, non-cancerous deposit, or injury.
  - *c.* Intussusception: ileum and cæcum most commonly protruded into colon; sometimes from traction of polypi.

(2) *Extramural*, or those causes acting from without, or affecting the serous covering :—
  - *a.* Bands and adhesions from effusion of lymph.
  - *b.* Volvulus or twists.
  - *c.* Diverticula.
  - *d.* External tumours or abscesses.
  - *e.* Hernia through holes in mesentery, omentum, &c.
  - *f.* Diaphragmatic and foramen of Winslow hernia.
  - *g.* Obturator and ischiatic and perineal hernia.

(3) *Intramural*, or obstructions produced by lodgment of foreign substances :—
  - *a.* Foreign bodies, hardened fæces, concretions having for nuclei gall-stones, &c., most frequent in women. —See *Intussusception.*

SYMPTOMS OF INTESTINAL OBSTRUCTION. Chief symptoms constipation, followed by constant vomiting: at first of mucus and contents of stomach, but in a few days of fæcal matter (stercoraceous vomiting). Pain, often very severe. Tympanites, unless occlusion be high up, with violent borborygmi. Hiccough, especially in strangulation of upper part of small intestines. Mental depression. Palpation often detects increased fulness just above obstruction: more marked diminution of resonance at this point than elsewhere. Early prostration. Acute peritonitis commonly occurs in a few days. Gangrene most frequent in intussusception and obturator hernia. The lower the obstruction, the less urgent the vomiting, and the longer the time before it commences. When the obstruction is in the large intestine, the vomiting may be delayed for many days. The higher the obstruction the earlier the vomiting, and the greater the diminution in the quantity of urine.

TREATMENT. *When diagnosis is doubtful*:—Olive oil and soap enemata with caution. Avoid all purgatives.

Directly it is certain a mechanical obstruction exists.—Purgatives injurious. Extract of opium (gr. 1 every four, six, or eight hours). Opium and belladonna, 344. Subcutaneous injection of atropine, 314.—Fomentations. Linseed poultices, with application of belladonna and opium, 297.—In urgent cases no food by the mouth, strength sustained by nutrient enemata. When less urgent food and fluids in very small quantity. Ice. Frozen milk. Lime water and milk, 14. Tea and cream. Brandy and water. Essence of beef, 3. Eggs, cream, and extract of beef, 5. Brandy and egg mixture, 17.—Hot baths. Enemata of large quantities of fluid, with manipulation of intestines by pressure on them through abdominal walls; abdominal section when not too late. In intussusception, inflation with air by means of bellows while under chloroform. When tympanites extreme, puncture with fine trocar and cannula or hollow needle.

INTESTINAL PERFORATION.—The intestine may be perforated owing to:—(1) Disease in coats of bowel,—as in typhoid fever, inflammation of cæcum, dysentery, ulcer or cancer of stomach or intestines, &c. (2) From extension of ulceration in disease of adjacent organs,—as in hydatids and abscess of liver, calculi in gall-bladder, ovarian tumours, extra-uterine pregnancy, ovarian abscess, pelvic cellulitis, cancer of uterus or vagina, and suppuration in abdominal parietes. These last more usually open into peritonæum.

INTESTINAL CASTS.—Occasionally considerable mucous casts are discharged from the bowel preceded by colicky pain. They usually occur in women who suffer from constipation, and they often cause great alarm, as they look very like pieces of intestine, yellowish-brown in colour, and gelatinous. The disease is usually chronic and intractable. In a case of morphia habit causing constipation the intestinal casts ceased when the habit was cured.

INTESTINAL WORMS.—For varieties, see *Entozoa.*

SYMPTOMS. Colicky pains and swelling of abdomen. Picking of nose. Itching of rectum and fundament. Foulness of breath. Irregularity of bowels. Grinding of teeth at night. Frequent feeling of malaise. Voracious or impaired appetite. Only conclusive sign,—passage of worms, or of joints of them, in stools.—From reflex irritation, epileptic attacks or chorea may occur, and insanity has, it is said, been caused by worms, and is certainly often improved by their expulsion.

TREATMENT.—*For tape-worms:*—Liquid extract of fern-root, 187. Konsso, 184. Kamela, 182. Decoction of pomegranate root, 159.

For round-worms:—Santonin. *For either kind:*—Oil of turpentine, 183. Calomel with scammony or jalap, 159. Sulphur. Gamboge. Croton oil. Cowhage (Mucuna pruriens). Common salt.

For thread-worms:—Calomel with scammony or jalap for three successive nights, to dislodge them from cæcum. Then enemata of cold water: lime-water or infusion of quassia, to kill or remove them from rectum. Steel and quassia, 192; common salt, 188. spirit of ether (min. xv to each ounce of water); olive oil, 159. Santonin, 185. In adults, cure difficult. Hunyadi Janos and steel tonics; cold water or olive oil injections. For Dochmius duodenalis, santonin with calomel; or male fern, followed by calomel.

To prevent recurrence:—Avoidance of raw and underdone animal food, especially pork; as well as of imperfectly washed raw vegetables. Steel and sulphate of soda, 180. Quinine, rhubarb, and hop, 370. Infusions of chamomile, chiretta, quassia, or rhubarb. Quinine and steel, 380. Steel, glycerine, and quassia, 392. Compound iron mixture and aloes, 393. Extract of nux vomica, 175. Phosphate of iron, 405. Steel, hydrochloric acid and quassia, 397. Ammonia iron-alum, 116. Glycerine. Cod liver oil.

INTRA-THORACIC TUMOURS.—May be aneurismal; or consisting of cancer, sarcoma, enlarged glands, abscess, fibrous tissue, or of fatty or steatomatous matter. Discarding aneurisms, these tumours usually have their origin in the glandular structures, and are developed in the mediastina.

SYMPTOMS. Chiefly due to pressure exerted on heart and lungs; or on the nerves and vessels. Hence, tumour often considerable before it interferes with circulation or respiration.

General symptoms:—Will vary with situation, character, and rate of growth of tumours, and will be some of the following:—More or less pain; restlessness; cough; dyspnœa, or even orthopnœa; frothy or viscid expectoration; palpitation; hoarseness; frequently dysphagia; sometimes hæmoptysis. Pleurisy with effusion, bronchitis, pneumonia, laryngitis, or tracheitis may arise from constant irritation. Pulmonary collapse may be caused by pressure. Bulging, or even perforation, of ribs and sternum. Displacement of heart. Impediment to circulation through aorta, or through superior or inferior vena cava. Spasm or paralysis of laryngeal muscles from pressure on recurrent laryngeal nerves. Dulness on percussion more marked as growth protrudes into anterior mediastinum. Auscultatory signs vary according to nature of secondary complications.

In primary cancer involving root of lung, inflammatory condensation of pulmonary tissue, with disorganization and abscess may result early. These changes probably due to tumour involving and destroying all or a greater part of pulmonary nerves as they pass off from root of lung.

Death takes place slowly in mediastinal tumour generally. The pain, want of sleep, loss of appetite, dyspnœa, &c., weaken patient. Anæmia, followed by anasarca, sets in. Sometimes sudden death from hæmorrhage, thrombosis, or spasm of glottis.

TREATMENT. All that can be done is to palliate symptoms. Temporary relief may be given by,—Diuretics and aperients. Antispasmodics,—Ether, chloroform, belladonna, aconite, stramonium, opium, &c. Iodide of potassium, 31. Iodide of ammonium, 38. Chlorate of potash, 61. Dry cupping. Inunction with red iodide of mercury ointment, 302. Iodine and cod liver oil ointment, 308. Iodide of cadmium ointment, 311. Venesection to six or eight ounces, if symptoms of pulmonary or cardiac congestion predominate.

INTUSSUSCEPTION.—From *Intus*, within; *suscipio*, to carry Synon. *Invagination* (*In*, within; *vagina*, a sheath).—The invagination of one part of the bowel into the lumen of the part immediately below, just as the finger of a glove is pulled within itself. Owing to the congestion, effusion, and inflammation which result, the canal of the bowel gets more or less obstructed.

The intussusception may be single or multiple; in about half the cases, ileum invaginated through ileo-cæcal valve into cæcum and cæcum protruded into colon: most common in young children.

SYMPTOMS. The chief are sudden violent pains; sickness; obstinate constipation; collapse; discharges of blood and mucus per anum. The abdominal walls are often lax and the intussusception can often be felt as a soft sausage-shaped tumour. Spontaneous reduction may take place. In less fortunate cases inflammation of peritoneal coats of involved portion usually sets in between third and seventh days; opposed surfaces becoming adherent. Inflammatory action may end in gangrene; several inches of included sphacelated bowel coming away by stool, and leaving canal of gut free. Usually fatal.

TREATMENT. Free injections of warm water. Opium early. Abdominal section at once if no relief.—See *Intestinal Obstruction*.

IRIS, Diseases of.—From Ἶρις, the rainbow,—any object supposed to resemble a rainbow. Suspended (like a curtain with a circular aperture in its centre) between the cornea and crystalline lens, and bathed on both sides by aqueous humour, the iris serves to regulate amount of light admitted to retina. By it, the cavity containing aqueous humour is divided into an anterior and a posterior chamber.—Iris composed of delicate bundles of fibrous tissue, of circular and radiating involuntary muscular fibres, and of pigment cells. Sometimes absent; or only present in a rudimentary form, a condition known as *Irideremia*.—In *Albinism* the iris is of a rose colour, while pupils present a deep red appearance owing to absence of opaque pigment (uvea).—In *Coloboma* the two halves of the iris have failed to unite below, in consequence of arrest of development, so that pupil has an elongated form like a balloon.

1. **Acute Inflammation (Iritis).**—Synon. *Iriditis; Inflammatio Iridis.*—The iris is seldom alone attacked; sclerotic and deep-seated textures of eye generally also involved. Hence, objections have been raised to use of term Iritis; its employment "has the effect of directing the practitioner's attention to the iris, which bears a great deal of inflammation without destruction to the organ, and withdrawing it from the retina, which bears very little without permanent injury to vision." (Jacob.)

SYMPTOMS. In first stage, iris presents a confused appearance, owing to its fibrous texture becoming indistinct; loses its contractile power, and undergoes a change in colour. Sclerotic becomes vascular. In next stage, fibrin effused on surface of iris, and in anterior chamber. If inflammation proceed, pupil may get closed, or its margin become adherent to capsule of lens; or cornea may be rendered opaque; or permanent opacity of lens or its capsule may result.

The important symptoms may be thus enumerated:—(1) Zonular sclerotitis; fine hair-like vessels, running radially in sclerotic coat, towards edge of cornea, giving rise to a pink zone round cornea. (2) Discoloration of iris. If naturally blue, it becomes greenish; if dark coloured, reddish. This the result of increased vascularity, or of effusion of lymph into its substance, or on its posterior surface. (3) Contraction, irregularity, and immobility of pupil. (4) Effusion of coagulable lymph into pupil and posterior chamber, and occasionally into anterior chamber. (5) Adhesions of iris, and especially of pupillary edge, to capsule of lens (*plastic iritis*); in some rare cases, to cornea. (6) Tubercles, pustules, or small abscesses of iris. (7) Dimness of sight, and sometimes total blindness. (8) Pain in eye, and nocturnal circumorbital pain. (Mackenzie.)

Not to be supposed that in every case all the foregoing symptoms will be met with: rather a certain number of them will be found, sufficient to render diagnosis certain. Constitutional disturbance well marked, though not generally severe.

If inflammation be not checked, it creeps on, involves choroid coat and retina, and spoiling delicate texture of latter, completely destroys sight for ever.—When one eye has been permanently injured, especially when any foreign body lodged in it, sympathetic subacute inflammation is not unfrequently set up in the sound organ at the end of some months, or even in the course of a few days, which may go on to produce complete destruction. To prevent this it is often necessary to remove the eye which was first damaged.

The chief *causes* are:—Exposure to cold and wet, giving rise to rheumatic or idiopathic iritis; syphilis, causing syphilitic iritis; injuries and wounds producing traumatic iritis; and certain conditions of the constitution, especially the scrofulous, rheumatic, and gouty.

Syphilitic iritis is perhaps the most common. May occur at all ages. Usually attended with other effects of constitutional syphilis. At first, redness is less severe than in rheumatic form; there is seldom any haziness of cornea, as in rheumatic iritis; iris often assumes a rusty colour, especially near pupillary edge.

Patient to be kept quiet, preferably in darkened room, and with eye protected from light.—*The pupil to be kept dilated* (in order to prevent iris from forming adhesions with capsule of crystalline lens) by solution of atropine, gr. 4 to ℥j, 288; or by atropine gelatine discs. Sedative fomentations, if the eye is morbidly sensitive; one or two leeches may be applied to the temple, and cocaine gr. $\frac{1}{200}$ applied in wafers. High tension in the eyeball calls for paracentesis. Bowels to be kept regular by mercurial purgatives or enemata; opium to be given to relieve pain; diet to be plain but nourishing, and free from stimulants. Iodide of potassium (31) often of great value, especially in rheumatic and strumous iritis; in that dependent upon syphilis, mercury (25, 34, 131) more useful, though not to salivation.—*If there be depression,* —Ammonia and bark, 371; quinine, 379; salicin and sarsaparilla, 388.—*When circumorbital pain is intense,*—relief may be afforded by mixing three grains of powdered opium with ten of mercurial ointment, and well rubbing the compound into the temple. No astringent or other collyria should be employed.

Other remedies recommended:—Turpentine; colchicum; cod liver oil; santonin; henbane.

2. "Serous Iritis," Inflammation of Iris and Cornea.—It was erroneously believed until recently that a serous membrane or capsule covered the posterior surface of cornea, both surfaces of iris, and front of capsule of lens: hence, the present disease was supposed to consist of inflammation of this membrane, and was named "aquo-capsulitis."

SYMPTOMS. They run a chronic course. There is chiefly—intolerance of light; vascularity of sclerotic; haziness of cornea; and slight change in colour of iris. General health always bad. The disease very obstinate in delicate children. Nearly always the result of inherited syphilis.

TREATMENT. Rest to eyes. Nourishing diet. Tonics. Mercurials. Perhaps paracentesis. Atropine gr. 1 in ℥j, or Duboisine gr. 2 in ℥j.

3. **Mydriasis.**—A dilated condition of pupil, causing imperfect vision. From Μυδρίασις. Formerly supposed to be due to redundancy of humours.—From paralysis of third nerve or motor oculi, long-continued use of belladonna, and other causes, the iris sometimes loses its power, so that pupil remains dilated. *Ophthalmoplegia interna.*—This condition must not be confounded with immobility of pupil owing to disease of retina, from which it may be distinguished by a simple experiment. The patient is directed to supply the want of a contracted iris by looking through a large pin-hole in a card held close to the eye. If case be one of mydriasis, he will see perfectly; whereas if retina be diseased, the aperture will be nearly or quite useless. An early symptom of locomotor ataxy; occasionally a sequela of diphtheria.—The remedies for mydriasis consist of tonics which act specially upon the nervous system,—Zinc, 414, 416; nux vomica, 387, 409. Phosphate of iron, 405. Strychnine and steel, 408. Ergot of rye. A succession of blisters to the temple. Concave glasses often serviceable. The local employment of physostigmin, gr. 2 or 4 to ℥j, especially where the disease has been caused by belladonna.

4. **Myosis.**—From Μύω, to contract. An unduly contracted state of the pupil.—There is obscurity of vision, especially in a weak light. The remedies are rest, with tonics to improve the general health. The use of atropine or Duboisine (?)

JAUNDICE.—From the French *Jaunisse*, the jaundice. Synon. *Icterus.*—A prominent symptom of many varied morbid processes rather than a specific disease.

All forms can be included under one of two divisions:—(1) Those due to suppression of biliary functions, in which the colouring matter of bile, cholesterine, &c., accumulates in the blood, as in acute yellow atrophy of liver, yellow fever, and malignant remittent fever. (2) Those arising from re-absorption of bile properly formed, due either to derangement of the hepatic circulation or to obstruction to the flow of bile into the duodenum. Jaundice from derangement of the hepatic circulation is met with in congestion and inflammation of the liver, in some cases of heart disease and of pneumonia, in relapsing fever. After jaundice from obstruction has existed some time, suppression likewise occurs; owing to backward pressure exerted on hepatic parenchyma by over-distended bile-tubes impeding capillary circulation through the gland.

The two most common causes of jaundice from obstruction are probably catarrh of duodenum and biliary passages, and gall-stones. In the first, there are weight, uneasiness, and dull pain at epigastrium, nausea, flatulence, constipation, &c. Where there is obstruction from a gall-stone, most severe suffering results; vomiting and hiccup, perhaps fatal exhaustion. For causes and treatment of jaundice see *Hepatic Diseases* and *Gall-stones.*

SYMPTOMS. Yellowness of conjunctivæ and skin. Saffron hue, or brownish-black tinge of urine; according to amount of bile-pigment present. White colour, or light clay appearance, of fæces. Itching of skin. Perhaps, exhaustion; drowsiness, giddiness and peevishness; bitter taste; slow pulse; dyspepsia, especially for fatty food. Exceptionally, corneæ, or aqueous and vitreous humours have become jaundiced, making all objects appear of yellow hue.

If disorder be of long continuance, there may be marked stupor, delirium, and other indications of cerebral derangement. Weakness and emaciation from mal-nutrition. Tendency to hæmorrhage—bleeding from gums, purpura, &c.

Test for bile in urine:—Add to small quantity of urine in white porcelain vessel strong nitric acid, drop by drop. A play of colours, brown, green blue, red, or sometimes only greenish tint shows presence of bile-pigment. A purple colour by strong sulphuric acid and sugar said to indicate biliary acids—this doubtful.

KELOID.—Perhaps from Κήλη, a tumour; εἶδος, like. Described by Alibert as *Kelis*, *Cheloidea*, or *Cancroide;* owing to its presenting a flattish raised patch of integument, resembling the shell of a tortoise (Χέλυς, a tortoise; terminal *-ides*).—Consists of flat, tender, smooth cutaneous excrescences, varying in size; raised a few lines above level of skin; having irregular forms, resembling a cicatrix left by a burn, and often arising in cicatrices. There may be only one tumour or several. Disease developed slowly; rarely ends in ulceration; sometimes disappears spontaneously, merely leaving a cicatrix; is usually found on chest between the mammæ: and is very uncommon.

Treatment. Arsenic, 52. Donovan's triple solution, 51. Iodide of potassium. Cod liver oil. Removal by knife or caustics, injurious. Pressure useless. If painful, morphia injection or aconite ointment and salicylic plaster (Unna).

KERATITIS.—See *Corneitis*.

KNOCK-KNEES. — Synon. *Genua Valga.* — An overgrowth of inner condyle of femur, the internal tuberosity of the tibia growing so as to meet it; with relaxation of internal lateral ligaments of knee-joints, allowing femur and tibia to become separated, so that an angular obliquity of the bones results.—May come on in delicate and rickety children when they begin to walk. Not uncommon in weakly growing youths and girls who carry heavy weights on their head. When treatment is called for, may be remedied in children by an articulated apparatus extending from pelvis to heel. In adults operations on the lower end of the femur are practised. Improvement of general health.

LARYNGISMUS STRIDULUS.—From Λαρυγγίζω, to vociferate with all his might; *Strideo*, to make a hissing noise. Synon.

Apnœa Infantum; Laryngospasmus; Infantile Laryngismus; Thymic Asthma; Spurious or *Cerebral Croup; Child-crowing.*—A spasmodic, often reflex, disease occurring in infants, especially if rickety, and chiefly during dentition. It consists of a temporary, partial, or complete closure of rima glottidis, by which entrance of air into lungs is impeded or stopped.

SYMPTOMS. Interruption of breathing. Rigidity of fingers and toes,—carpo-pedal spasm. Child suddenly seized with dyspnœa; it struggles and kicks, is unable to inspire, and seems about to be suffocated. Presently spasm ceases; air drawn through chink of glottis with a shrill whistling or crowing sound. Paroxysms may return in a few hours or days; induced by emotion, anger, fright, or come on when child wakes up or cries.

TREATMENT. *During paroxysm*:—Hot water to lower parts of body, with cold affusion to head and face. Slapping of chest and nates sharply. Exposure of face and chest to current of cold air. Gentle inhalation of chloroform. Vapour of ether or ammonia to nostrils. Artificial respiration, drawing tongue well forwards. As a last resource, tracheotomy.—*During interval*:—Mild purgatives. Cod liver oil and steel wine. Anthelmintics, if necessary. Antispasmodic tonics: Zinc and belladonna, 92. Assafœtida. Hydrocyanic acid. Valerianate of iron. Quinine. Out-door life. Especially change of air. Cold sea-water sponge baths. Simple diet, with milk. Lancing of gums, if they be tender and swollen.

LARYNGITIS.—From Λάρυγξ, the windpipe; terminal *-itis.*—Acute inflammation of the larynx is a rare disease unless croup be included; it is generally fatal. Œdema of glottis may occur from other causes than acute inflammation. Larynx also liable to chronic inflammation, ulceration, polypi, &c.

1. Acute Laryngitis.—Synon. *Inflammatio Laryngis; Cynanche Laryngea; Angina Laryngea.*—Almost peculiar to adults. Generally arises from cold and wet in unhealthy constitutions. Occasionally caused by syphilis. Inflammation often of limited extent; the great danger due to its situation.

SYMPTOMS. Come on insidiously. At end of some hours,—fever; redness of fauces; pain referred to pomum Adami; difficulty of breathing and swallowing; stridor; hoarseness or even complete loss of voice; considerable anxiety. Spasmodic exacerbations: paroxysms of threatened suffocation. Long inspirations: peculiar wheezing sound, as if air were drawn through a narrow tube. Perhaps harsh and brassy cough. Dysphagia: liquids swallowed with more difficulty than solids. Face gets flushed; eyes protruded; pulse hard; great general distress. Larynx and trachea move rapidly upwards and downwards: all the muscles of respiration brought into strong action, so that chest heaves violently. Patient gasps for breath: tries perhaps to get to open window. He soon sinks into a drowsy and delirious state ; and speedily dies suffocated, from obstruction of chink of rima glottidis.

TREATMENT. Rest and quiet : forbid talking. - Air of room to be kept moist : temperature 70° F. Turpentine, or hot water, stupes to neck. Extract of belladonna to neck, with linseed poultices. Inhalation of steam of boiling water ; or of vapour medicated with tinct. benzoin co. ʒj to Oj, hydrocyanic acid, or a little chloroform, 261. Inhalation of spray medicated with stramonium, belladonna, conium, or iodine, 262. A respirator to be worn during intervals between inhalations. Directly there are indications that the blood is not thoroughly oxygenated,—tracheotomy. Milk or cream. Raw eggs. Beef tea. Wine or brandy.

Bleeding, blistering, calomel, tartarated antimony,—positively injurious. If disease be due to constitutional syphilis, free mercurial inunction ; mercurial vapour baths, 131.

2. **Œdema of Glottis.**—Synon. *Œdematous Laryngitis ; Hydrops Glottidis ; Submucous Laryngitis.*—May be caused by laryngitis ; boiling water, or corrosive poisons taken accidentally into mouth ; septic infection, pharyngeal erysipelas. Sometimes simulated by dyspnœa of general anasarca, renal disease, &c. Hence a laryngoscopic examination should often be made to remove all doubt. To favour subsidence of tumefaction,—inhalation of tannin spray ; sucking ice. Large doses of bromide of potassium. Scarifications of œdematous swelling may be successfully made by aid of laryngoscope. This failing,—laryngotomy or tracheotomy.

3. **Chronic Laryngitis, &c.**—Chronic inflammation and ulceration not uncommon in pulmonary consumption ; a species of tuberculosis known as *phthisis laryngea.* To be treated like pulmonary phthisis with addition of local applications daily of solution of nitrate of silver, sulphate of zinc, chloride of zinc, or sulphate of copper. Membrane lining laryngeal cartilages often becomes thickened and ulcerated in constitutional syphilis. Often rapidly cured by large doses of iodide of potassium ; local treatment also often required.—Polypi and warty tumours arise from different parts of larynx ; cause great impediment to entrance and exit of air, and especially impairment or loss of voice. May be removed by aid of laryngoscope with a small wire écraseur.—Epithelial cancer occasionally seated about vocal cords.—See *Foreign Bodies in Air-passages.*

LEAD COLIC.—Synon. *Painter's Colic ; Saturnine Colic ; Plumbism.*—Attacks of colic, vomiting, and constipation from the presence of lead in the system. Often followed by paralysis, especially of extensors of the fingers.

SYMPTOMS. In addition to those of ordinary colic, an intense grinding or twisting sensation round navel ; retraction of abdominal integuments towards spine ; pain in back ; anæmia ;

a blue or slate-grey line round edges of gums; a frequent cause of gout, granular kidney, and in women of menorrhagia and abortion.

House-painters, type-founders, plumbers, compositors, suffer most frequently: often have many attacks before muscles of arms become affected with paralysis, causing *drop-wrist.* Sleeping in a recently painted room, drinking fluids which have been kept in leaden vessels, effervescing drinks kept in bottles with syphon taps, taking snuff adulterated with lead, &c., are not uncommon causes.

Treatment. *During Attack:*—Calomel and jalap, with sulphate of magnesia, 140. Sulphate of magnesia and sulphuric acid, 142. Sulphate of magnesia with tincture of opium and ether. Sulphate of soda and sulphuric acid, 143. Castor oil, 164. Castor oil and opium. Croton oil, 168. Enemata of warm water. Hot baths. Opium and chloroform, 316. Morphia and ether, 315. Morphia, chloroform, and Indian hemp, 317. Opium and belladonna, 344. Hot fomentations. Faradisation: farinaceous food.—*Subsequently, to eliminate poison:*—Iodide of potassium, 31. Sulphur baths, 125. Sulphate and carbonate of magnesia, 141. Colchicum, 46. Continuous current. Faradic current. Massage.—*Prophylactic:*—Sulphuric acid drink. Attention to functions of skin and bowels. Avoidance of abuse of alcoholic drinks. —See *Colic; Paralysis.*

LEPRA.—From λεπρὸς, rough, a scaly state of the skin. Not to be confounded with leprosy (see *Elephantiasis*). A non-contagious squamous eruption; consisting of red and scaly circular patches, of various dimensions, scattered over different parts of body. Most frequently found in the neighbourhood of the joints, especially near the knee and elbow. Common lepra affects mostly extensor aspect of limbs, olecranon and below patella; syphilitic lepra often on flexor surface. By degrees, patches increase in size and number, and extend along extremities to trunk.

Varieties. When the patches are of moderate size, round and reddish, and covered with thin white scales, affection known as *lepra vulgaris;* when eruption is smaller and whiter than the foregoing, and of long standing, disease termed *lepra alphoides;* when it is copper-coloured, result of syphilis, *syphilitic lepra.*

Treatment. *Locally:*—Warm baths. Alkaline baths, 121. Tar ointment. Goa powder or chrysophanic acid.

Internally:—Aloes, gentian, and potash, 148. Pepsine and aloes, 155. Nitric acid, senna, and taraxacum, 147. Ammonia and rhubarb, 161. Arsenic, 52. Phosphorus. Donovan's triple solution, 51. Sarsaparilla and corrosive sublimate, 27. Infusion of dulcamara. Tar capsules, 36. Tincture of cantharides, 226. Copaiba. Carbolic acid. Cod liver oil. Sulphur. Colchicum. Iodide of potassium, 31. Red iodide of mercury, 54. Red iodide of mercury and arsenic, 55. Harrogate waters. Woodhall spa. Barèges. Simple nourishing food; avoidance of stimulants.

LEUCOCYTHEMIA.—From Λευκὸς, white; κύτος, a cell; and αἷμα, blood. Synon. *Leukæmia; White Cell Blood.*—Two varieties. 1. *L. splenica;* and 2. *L. myelogenica.* A morbid state of the blood, in which the white corpuscles are greatly increased in number, while the red cells are much diminished. Connected with hypertrophy of the spleen, or of the lymphatic glands, or both, or lymphatic growth in the medulla of bones. In Hodgkin's disease white cells not increased.

Symptoms. Anæmic pallor. Emaciation and debility. Abdominal swelling. Spleen very large, often reaching left iliac fossa and passing linea alba; easily recognised by notches. Disordered respiration. Loss of appetite. Mental depression. Diarrhœa. Nausea. Hæmorrhage from nose, lungs, or stomach. If subcutaneous, submucous, or intermuscular, may be taken for abscess. Jaundice. Anasarca. Ascites. Prostration, ending in death. Pathognomonic characteristics are presence of excess of white corpuscles in blood, and great enlargement of spleen, liver, kidneys, or of lymphatic glands. Sometimes other organs affected.

Treatment. Phosphorus. Arsenic. Bark, 22, 376. Iron, 21, 392, 394, 405. Quinine, 379, 380. Carbonate of ammonia. Cod liver oil, 389. Gallic acid, 103. Alkaline hypophosphites, 419. Iodide of potassium. Chloride of potassium. Nourishing food. Pepsine, 420. Stimulants. Sea air. Chalybeate mineral waters. Galvanism. Friction with iodide of mercury ointment. —See also *Adenoma.*

LEUCODERMA.—From Λευκὸς, white; δέρμα, the skin. Synon. *Leucopathia; Chloasma Album; Alphosis; Achroma.*—A rare condition; in which the skin is rendered white in various sized patches, from loss of cutaneous pigment. Occurs especially in negroes,—"the piebald negro." General health not affected.

LEUCORRHŒA.—From Λευκὸς, white; ῥέω, to flow. Synon. *Menstrua Alba; Fluor Muliebris; Catarrhus Genitalium; The Whites.*—A mucous discharge from the lining membrane of the uterine cavity, or of the vaginal canal. Hence, there may be uterine or vaginal leucorrhœa.—See *Endometritis; Vaginitis.*

LICHEN.—From Λειχὴν, moss. Synon. *Papulæ Siccæ; Licheniasis Adultorum; Dry Itch.*—An obstinate and annoying papular affection of the skin. Recognized by the minute, hard, red elevations which it presents, becoming later fawn-coloured or yellow, and which are either distinct or arranged in more or less circular clusters; by the tingling and irritation; and by the slight desquamation which follows.

VARIETIES :—

(1) *L. simplex.*—Eruption of red, inflamed papulæ, on face and arms, extending to trunk and legs. Slight fever; itching or tingling: eruption fades in about a week, when desquamation takes place. Disease apt to return every spring or summer in irritable constitutions. Sometimes mistaken for measles or scarlet fever. Hebra says that this is a papular form of eczema.

(2) *L. circumscriptus*, or *circinatus*, or *marginatus*, or clustered lichen—*L. scrofulosorum* of Hebra. Patches of red or pink papules, with well-defined margins, and irregular circular form, which become later of a yellow colour; generally seen on back or chest. The skin is often peculiarly greasy. Itching is slight. Fresh crops succeed each other.

(3) *L. ruber* (Hebra); *L. planus* (Wilson); *L. psoriasis* (Hutchinson). Different to other varieties of lichen. Papules are larger and flatter, and their surface polished. Their colour is a pale lilac streaked with darker lilac lines. Usually found on the limbs. The smaller papules are arranged in an oval form, the larger more irregular. In *L. ruber acuminatus* the papules are capped with scales, and although at first widely separated from each other, the intervals are filled up till continuous patches are formed, eventually perhaps affecting the whole skin. The palms and soles become fissured, the nails thin or brittle, or rough, or thick, and broken. The itching is severe, and the crusts of dry serum, or blood, often seen, are the result of scratching. Of the many other forms of lichen that have been described by experts the following must be named:—

L. agrius.—A severe form ushered in by fever. Eruption is vesicular or pustular, as well as papular, and is said to be a form of eczema (Hebra).

L. lividus.—Occurs in cachectic persons, when the papules are livid.

L. urticatus.—Seen mostly in children, and is probably simple urticaria.

L. pilaris.—Inflammation round the hair follicles, a pityriasis.

L. tropicus.—Prickly heat, peculiar to the tropics. (Miliaria papulosa of Crocker.)

L. inveteratus.—Is a severe and chronic form, not a fresh variety, differing only in degree.

TREATMENT. Only simple remedies required. Tepid baths: mild laxatives: acidulous drinks: an unstimulating diet. Irritation to be relieved by acetate of lead and hydrocyanic acid lotions, 263: or by equal parts of subacetate of lead and oxide of zinc ointments: or by glycerine and water, equal portions: or by corrosive sublimate lotion, 271. In chronic forms,—Cod liver oil. Quinine and mineral acids, 379. Quinine and steel, 380. Phosphate of iron, 405. Tincture of perchloride of iron and glycerine, 392. Generous diet: milk: malt liquors or wine. *Externally*,—Cod liver oil. Vaseline. Vaseline and thymol. Borax and glycerine. Ung. creasoti. Ung. picis. Glycerine of carbolic acid. In (2) wash frequently, and change underclothing.

LIPÆMIA.—From *Λιπα*, fat; *αἶμα*, blood. Fatty blood.—See *Piarhæmia.*

LOCKED-JAW.—Synon. *Trismus*, from Τριζω, to gnash with the teeth.—See *Tetanus.*

LOCOMOTOR ATAXY.—See *Paralysis.*

LUMBAGO.—From *Lumbus*, the loins. A painful affection of muscles and fascia across the loins, rendering movement of the lumbar region painful.

Treatment. Rest. Fomentations. Belladonna. Iodine. Very hot soda baths. Massage. Galvanism. *Internally*,—Salicylic acid, or the salicylate of soda, gr. 10 to 30, with or without colchicum.

LUMBAR, PSOAS, AND ILIAC ABSCESS.—Chronic collections of pus in these situations generally due to caries of bodies of dorsal or lumbar vertebræ. More seldom, are caused by general debility without spinal disease. Occur especially in strumous subjects.

Symptoms. Quantity of pus usually large. When it points in the loins, generally on one side of spine, it is known as *lumbar* abscess. When in the groin, below Poupart's ligament, having travelled along the course of one or both psoæ muscles, it is called *psoas* abscess. When above Poupart's ligament, it is called *iliac* abscess. In exceptional cases, the abscess has burst into peritoneum, large intestines, or pleura. Very rarely the pus has been absorbed.

Treatment. The best chance of recovery is afforded by aspiration with antiseptic precautions. If abscess does not then dry up, make a free incision, complete evacuation of the pus, and introduction of an adequate drainage tube, dressing antiseptically. Scrape lining membrane of abscess with Volkmann's spoon, if it be thick and covered with cheesy pus; the cavity may be distended and washed out by a solution of sulphurous or carbolic acid. Valvular opening formerly recommended. When a permanent cure cannot be hoped for, it is unwise to interfere unless there be pain or much inconvenience. In all cases improvement of general health necessary. Bark. Ferruginous tonics. Good diet. Cod liver oil. Sea air.

LUPUS.—A non-contagious chronic disease of skin, characterised by formation of nests of round cells in meshes of cutis, tending to spread peripherally and to undergo an atrophic or destructive process which leaves superficial scars. A form of tuberculosis. Most common on the face: occurs in the young or middle-aged: and is more often met with in women than men.

VARIETIES. Two forms,—*Lupus vulgaris*, and *Lupus erythematosus* (Bat's wing). *L. vulgaris* occurs in the young; *L. Erythematosus* in adults, both of strumous diathesis. The former may begin with a patch of erythema, or the formation of nodules having the appearance of "apple-jelly." There is no pain nor itching; the growth is slow, advancing at the edges. Eventually it either cicatrizes or ulcerates, the ulcer being covered with crusts and scabs (L. exedens). Lupus spreads by the formation of fresh nodules always at the periphery, while the centre undergoes atrophy perhaps without ulceration, but always leaving a scar. In L. erythematosus there are no "apple-jelly" nodules, but hyperæmic follicles with thin scabs, and sebaceous ducts plugged with sebum, appear usually on the nose, followed by similar red patches on the cheeks, which by spreading and uniting form an outline not unlike a "butterfly" or "bat," the body being on the nose in the centre, and wings on the cheeks. Occurs in other situations, face, ears, scalp, hands, &c. Lupus is closely simulated by a form of tertiary syphilitic ulceration, which may destroy the nose.

TREATMENT. *Internally:*—Nutritious diet, with stimulants and tonics. Quinine. Iron. Cod liver oil. Hypophosphites, &c.

Locally. L. Vulgaris. Destruction of new growth by caustics, scraping or scarification. Patient is put under chloroform, and with Volkmann's spoon the nests in the corium are scraped away. They may be destroyed by means of fuming nitric acid, or nitrate of silver, or the cautery, or in mild cases linear scarification is useful (Squire), scabs and crusts having first been removed by oil and washing with soap and water, or soft soap in half its weight of sp. vin. rect. Simple ointments often useful before and after. Liq. carbonis detergens ʒss to vaseline ʒj (Hutchinson), cod liver oil or mild astringent applications, 293*a*, 300, 306, &c.

L. Erythematosus. Mild, stimulating, and soothing applications as above. Zinc. Bismuth. Lead. Iodine. Tar. Flexible collodion, &c. Treatment by inoculation (Koch) for tubercle.

LYMPHANGITIS. — Synon. *Angeioleucitis.* Inflammation of the lymphatic vessels may result from external injury, or from absorption of some morbid matter—as in dissection wounds, unhealthy carbuncles, &c. Lymphatic glands usually involved.

SYMPTOMS. Formation of bright red streaks; running upwards from wound along course of absorbents to the glands in which the vessels open. Streaks, tender to touch; the seat of stinging pains; hard, like little cords. Glands in connection with affected vessels quickly become involved; get swollen and acutely painful. Whole limb rendered puffy and tender. Great constitutional disturbance; chills or rigors; nausea and constipation, fever, restlessness, mental and bodily prostration.—

May end in resolution; suppuration; chronic induration; fatal exhaustion, or septicæmia. Often complicated with erysipelas or phlebitis.

Treatment. Sulphate of soda or magnesia, 48. Chlorate of potash, 61. Carbonate of ammonia, 361. Ammonia and bark, 371. Quinine, 379. Hydrochloric acid, 357. Purgative enemata, 188, 190. Essence of beef, 1. Restorative soup, 3. Eggs, cream, and extract of beef, 6. Brandy and egg mixture, 17. Wine. Ice. Acid tartrate of potash drink, 356. Hydrochloric acid and chlorate of potash drink, 358.—Fomentations. Linseed poultices. Extract of belladonna and water dressing. Bed to be placed in centre of well-ventilated room. Evacuation of pus by free incisions.

LYMPHADENOMA.—Synon. *Hodgkin's Disease.* A disease in which the lymphatic glands become enlarged by increase of glandular structure.

Symptoms. Gradual painless enlargement of nearly all the lymphatic glands. Glands of neck, axilla, and groins symmetrically enlarged, not inflamed or fused together; thoracic and abdominal glands also affected. Patient weak, loses flesh, soon out of breath on exertion. There may be symptoms of pressure on root of lung or other structures in chest or abdomen. Gradually increasing debility.

No treatment of any avail in advanced stages; arsenic or phosphorus worth a trial early. Strength to be sustained by nourishing food, cod liver oil, &c.—See *Leukæmia* and *Hodgkin's Disease.*

MALACOSTEON.—From Μαλακὸς, soft; ὀστέον, a bone. Synon. *Mollities Ossium.*—See *Osteomalacia.*

MALIGNANT PUSTULE.—Synon. *Anthrax; Charbon.*—A furunculoid disease conveyed from cattle to man by inoculation, which may be effected by poison entering the alimentary canal in food or water, or the respiratory organs through the air. The flesh of animals suffering from this disease taken as food may cause it. "Woolsorters' disease" is this affection contracted by inoculation by handling the wool of sheep which have died from it, or by inhaling the dust from the fleeces. The contagium is the bacillus anthracis, which is found abundantly in the local ulcer and in the blood.

Symptoms A pimple or vesicle, which usually forms on a surface habitually exposed. It bursts and leaves a black eschar. Swelling and discoloration. Severe carbuncular inflammation: enormous swelling: brawny hardness: loss of vitality. Fœtid breath. Embarrassed respiration. Great prostration. Death with symptoms of general blood-poisoning.

Treatment. Excision of pustule, and free application of carbolic acid, which is very destructive to the bacillus anthracis.

Carbolic injections without excision. Quinine. Carbolic acid. Stimulants and nourishing food.

MAMMARY ABSCESS.—Synon. *Milk Abscess; Abscess of the Breast.*—May be acute or chronic: the former a result of active inflammation. Forms either in substance of gland, or between gland and skin, or between gland and chest walls.

SYMPTOMS. *Acute:*—Occurrence of rigors during progress of inflammation. Engorgement of breast. Deep-seated or diffused burning pains: throbbing, and sense of heavy weight. Formation of a painful point. Fluctuation. Symptoms, general and local, most severe in intra-glandular abscess.

Chronic:—Most important because the lump or knot in breast is apt to be mistaken for a malignant tumour. Matter forms very slowly: may be result of scrofula or derangement of general health, without any inflammatory symptoms. Occurs in puerperal and in sterile women. First indications are hardness of gland and soreness about nipple. An imperfectly circumscribed and uneven tumour can be detected: fluctuation indistinct, often difficult to appreciate, owing to thickness of plastic effusion round the purulent collection. Nipple may be retracted. Adhesion occurs between tumour and skin.

TREATMENT. Tonics and stimulants. Nourishing food: malt liquors. Introduction of grooved needle, if diagnosis be doubtful. Free puncture at most depending point. Drainage tube. Poultices. Pressure with long strips of strapping. Care necessary to prevent sinuses from burrowing. If they form, pressure or stimulating injections can be tried; or setons should be passed through them. Attention to digestive and uterine organs.

MAMMARY HYPERTROPHY.—Enormous hypertrophy of one or both breasts may occur in single and married women. Usually one gland first begins to enlarge, and slowly increases in size. At the end of a year or more, opposite mamma gets affected. No inflammatory symptoms, induration, or pain. Enlargement becomes burdensome, and unsightly. Affected gland may project firmly from thorax; or it may hang flabby and loose—Pendulous breast. In many cases, the uterine functions are imperfectly performed. General health usually impaired.

TREATMENT. Very unsatisfactory. Improvement of general health. Attention to uterine functions. Pressure with strips of ammoniac and mercury, or mercurial, or litharge, or belladonna plaster. Where patient is pregnant, a hope of cure may be entertained when lactation is set up. Various preparations of iodine have been largely tried: seldom with any benefit. In very severe cases, one or both breasts have been amputated.

MAMMARY TUMOURS.—The female breast may be the seat of several varieties of tumour. Adeno-fibroma and adeno-sarcoma, and scirrhus are the most frequent forms.

I. Tumours of connective-tissue type.

(1) **Adeno-Fibroma.** — Synon. *Chronic Mammary Tumour; Glandular Tumour of the Breast; Adenocele.*—A tumour of the breast which commences in women between puberty and the thirtieth year. It grows slowly at first, but after some months or years it often suddenly enlarges. An enormous size may ultimately be attained. Never disappears spontaneously. The earlier in life this tumour appears, the more likely it is to be an almost pure fibroma; the later it develops, the more probability of its being adenomatous or glandular, and then it usually includes sarcomatous elements.

(2) **Adeno-Sarcoma.**—This disease resembles adeno-fibroma, but seldom begins till after twenty-five; clinically hard to distinguish from adeno-fibroma, but it grows more rapidly, and soon shows malignant characteristics.

SYMPTOMS. Tumour begins as a small, well-defined, movable nodulated growth, feeling as though isolated from the gland tissue. Not painful (unless much handled). Does not involve skin. No enlargement of axillary glands. In later stages adeno-sarcoma breaks down and ulcerates through skin.

TREATMENT. Adeno-fibroma should always be excised if it shows any tendency to grow. When the age of patient and rapidity of increase of tumour point to sarcoma, the entire breast should be removed.

(3) **Sarcoma.**—The purer forms, free in earlier stages from non-malignant glandular elements, are rare. An oval, smooth, very elastic tumour of rapid growth in a woman over thirty is probably sarcoma. Very malignant. Axillary glands do not enlarge except when tumour ulcerates through skin. Removal of entire breast advisable, except when the tumour is very small, then it may be excised, and the case carefully watched. Repeated timely excisions may save the patient.

II. Tumours of epithelial type.—See *Cancer.*

1. **Scirrhus.**—Synon. *Hard Cancer of the Breast; Hard Spheroidal-celled Carcinoma of Breast; Chronic Cancer.*—Begins about or after the age of forty, usually as a hard, ill-defined, tuberous mass in substance of gland; of slow growth. Axillary glands soon enlarge. Nipple becomes retracted unless the growth develops near the periphery of the mamma. After a time skin becomes puckered and adherent to the growth, which may also adhere to the pectoralis major. Ulceration of growth, cachexia, dissemination of cancer over internal organs. There is a form which rapidly infiltrates the skin, another which develops under an eczematous nipple, and a very chronic, almost stationary, variety in the aged.

TREATMENT. Remove the breast without delay, and thoroughly clear the axilla of enlarged glands. This operation is only to be avoided in the chronic senile type and in patients where the disease is very advanced, especially when supra-clavicular glands are involved, or cachexia marked.

The softer types of cancer are less frequent. In cases where they form, growth is very rapid, and infection of axillary glands occurs early. The male breast sometimes becomes the seat of malignant disease.

III. Cysts.—Cystic tumours, usually mere varieties of above types, especially adenomata and sarcomata. In such cases they often contain proliferating growths. Cystic fibroma, adenoma, or sarcoma, appears as a well-defined lobulated growth, fluctuating in some parts, resistant or elastic in others. A tumour of this mixed class is relatively more malignant than a similar growth entirely composed of solid tissue. *Treatment* as for adeno-fibroma and adeno-sarcoma.

Cysts without solid new growths include

(1) *Retention cysts*, where the obstructed lacteal ducts dilate, usually seen near the menopause, as a result of atrophic changes in the breast (involution cyst), but may be a result of the evolution of the gland in young prolific women (evolution cyst). Retention cysts may infest the whole gland, or one or two large cysts may cause absorption of its solid elements.

TREATMENT. Tap the suspected cyst and examine the fluid; should the cyst fill again lay it open, and if it be free from solid growths on its inner walls drain it and allow it to fill up by granulation. If such growths exist, excise the cyst freely. Multiple cysts usually demand removal of the breast.

(2) *Lacteal cysts and galactoceles.*

(3) *Hydatid cysts.*

In any case of suspected solid tumour of breast, remember that it may prove on tapping or incision to be more or less cystic. Hence a preliminary incision is advisable on the operating table. In any case of pure cyst symptoms of malignancy may follow; association between cancer and cysts uncertain, therefore watch a patient after recovery from operation for cystic disease.

MAMMILLARY DISEASES.—See *Nipple, Diseases of.*

MAMMITIS.—From *Mamma*, the breast; terminal, *-itis.* Synon. *Mastitis; Inflammatio Mammæ.*—Inflammation of the breast may be acute or chronic. Generally occurs during lactation:—from cold; irritation of sore nipple; external injury; too poor a diet; inattention to suckling at proper intervals; general debility: or sympathy with gastric, intestinal, hepatic, uterine, ovarian, or renal irritation.

SYMPTOMS. When *acute*:—Considerable pain, swelling, induration. Shivering, fever, quick pulse, loaded tongue, delirium. Secretion of milk soon checked. Suppuration commonly results.

In *chronic* form:—Comes on insidiously. Enlargement of gland and induration: the hardness much less than in scirrhus.

Often ends in suppuration. May follow acute inflammation; or may arise in women of strumous constitution quite independently of child-bearing.

Treatment. Acute:—Antiphlogistic remedies not advisable; though rapid cures are said to have been effected by saline purgatives, antimonials, and leeches. Mild aperients. Iodide of potassium, 31. Aconite and opium, 332. Fomentations. Hemlock poultices. Three or four leeches, where there is great congestion and the powers of life are not enfeebled. The breast to be poulticed and supported. Arm to be kept quiet, by a sling or bandaging to the side. Infant to be weaned at commencement. If milk accumulates and causes painful distension, it must be drawn off with breast-pump. Belladonna and glycerine to be applied. Incision as soon as there is fluctuation. Tonics, and good nourishing food. Saline aperients.—See *Mammary Abscess*, *Galactophyga;* also, *Nipple, Diseases of.*

Chronic:—Ammonia and bark, 371. Quinine and mineral acids, 371. Cod liver oil. Nourishing food. Support and pressure by strips of strapping, belladonna plaster, or bandage. Abscess to be opened at most depending point.

MASTODYNIA.—From Μαστὸς, the breast; ὀδύνη, pain. Synon. *Mazodynia: Mastalgia; Neuralgia of Mamma.*—The female breast is not unfrequently the seat of distressing pains, without any structural disease of the gland.

Symptoms. Occasionally there is slight heat and more or less swelling of affected breast. Sometimes the lobules feel rather firmer than is natural. More commonly, the gland is healthy to the touch. The pain may be of a wearying aching character: it may be very acute, liable to exacerbations, and perhaps periodic, like neuralgia elsewhere. May be associated with dysmenorrhœa or other pelvic disorder. In many women the breasts are irritable at the commencement of each menstrual period. General health seldom good. Nervous temperament. Loss of appetite, constipation, restless nights, anxiety.

Treatment. Cure of the disorder on which the pain depends. Removal of any ovarian or uterine irritation. Attention to diet, exercise, clothing.

Quinine, 379, 411. Ammonia and bark, 371, 372. Aconite, 330, 374. Quinine and belladonna, 383. Cod liver oil. Pepsine, 420. Castor oil. Iodide of lead and belladonna in vaginal pessaries, 423. Friction of breasts with belladonna liniments, 265, 281. Support by strapping or bandage, if breast is pendulous. Pressure by encircling the gland with strips of belladonna plaster, or of ammoniacum with mercury (emplastrum ammoniaci cum hydrargyro, Brit. Phar.). The breast has been amputated; the pain returning in cicatrix, or in opposite gland.

Young infants, and boys or girls about the time of puberty, are liable to enlargement and tenderness of breasts. Sometimes there is secretion of milk. The disorder subsides spontaneously, ovided irritation is not kept up by application of iodine and milar drugs. The author has more than once seen abscess in east of infant, from the nurse using friction with oil "to rub e milk away," or pinching the breast to "break the string of e nipple."

MEASLES.—From the Saxon *Mesall*, or *Mysel*, leprous; *Meazel*, leper, or diseased person. Synon. *Morbilli.*—A continued in- ctious fever, with catarrh, characterized by a patchy crimson sh, and often attended or followed by inflammation of the ucous membrane of the organs of respiration. Some authors vide measles into two grades,—the *morbilli mitiores*, and *morbilli aviores;* the latter differs from the former in its greater verity, and in the fact that the eruption becomes purpuric æmorrhagic measles).

SYMPTOMS. After a period of incubation, varying from ten fifteen days, lassitude, shivering, pyrexia, and catarrh ccur; the conjunctivæ, Schneiderian membrane, and mucous embrane of the fauces, larynx, trachea, and bronchi being uch affected. Swelling of eyelids, with eyes suffused and atery, and intolerant of light; sneezing; dry cough; hoarse- ss, and sometimes dyspnœa; drowsiness; great heat of skin; hite tongue; together with frequent and hard pulse. The uption comes out on the face on fourth day of fever, and fades seventh: it consists of small papule-like dots, which coalesce to small blotches, raised above the skin, and often of a horse- oe or crescentic shape. Between the crescentic blotches the in is of the usual colour. Fever does not abate on appearance eruption. Pulmonary complications are to be feared, especially winter and spring months. Occasionally life endangered by e occurrence of laryngitis, cancrum oris, severe otitis, epis- xis, acute tuberculosis, or acute desquamative nephritis.

TREATMENT. Confinement to bed in a moderately warm room. diluvia, or warm bath, before the eruption appears. Milk et; acid or mucilaginous drinks. Castor oil. Rhubarb and gnesia. Cream of tartar. Solution of acetate of ammonia. ervescing saline mixtures. Spirit of nitrous ether. Carbonate ammonia. Alcoholic stimulants, if there be depression. Ex- ctorants, if cough be troublesome. Sponging with cold or tepid ter, if fever runs high. Antipyrin. Bark; quinine; steel; d liver oil; and nourishing food during convalescence. Child be kept to one room for a week after subsidence of fever. scharge from ears to be treated by injections of a boric acid ion.

MEDULLARY CANCER.—From *Medulla*, pith or marrow. on. *Encephaloid Cancer*,—’Εγκέφαλος, the brain.—Soft, sphe- dal-celled cancer.—See *Cancer*.

MELÆNA.—From Μέλας, black. Synon. *Dysenteria Splenica;*

Fluxus Splenicus; Dejectiones Nigræ.—When the intestinal evacuations contain blood, whether this comes from vessels of stomach or only from those of intestines, there is said to be *melæna.* The evacuations are often black, and sometimes resemble tar; but this dark appearance is by no means constant, and does not occur if the blood comes away too quickly to be acted upon by intestinal juices. Cirrhosis of liver, or any disease which produces obstruction of portal system, necessarily gives rise to congestion of gastric and intestinal veins, a condition often terminating in extravasation of large quantities of blood from the gastro-intestinal mucous membrane. Amongst other less common causes are enteritis, dysentery, intussusception, gastric ulcers, simple and malignant ulcerations, aneurismal and other tumours, &c. Not to be confounded with bleeding from rectum, owing to the presence of a polypus or of hæmorrhoids.

TREATMENT. When there is gastric disease, see *Hæmatemesis.* In other forms:—Calomel and jalap, 140. Sulphate of magnesia and aromatic sulphuric acid. Podophyllin, 160. Turpentine, 102. Gallic acid, 103. Mineral acids and bitters, 378.

MELANOTIC TUMOURS.—From Μελανόω, to grow black. Consist usually of sarcoma of the round-celled or large spindle-celled type, modified by the addition of black pigment in the cells. Most frequent where pigment naturally exists, as in skin, choroid, and iris, but may occur in muscles and lymphatic glands. Less common in soft, spheroidal-celled (encephaloid) cancer. Very rare in scirrhus or epithelioma. Non-malignant melanotic warts sometimes appear on the skin.

MELANOSIS.—From Μέλας, black; νόσος, disease. Synon. *Nigritudo; Black Tubercle.*—A rare disorder, characterised by the deposition in various tissues of the body, of a black or dark-brown substance.

Melanotic formations may take place in various parts of body, may present much variety of form, and may owe their production to different agents. They are divided into two great groups (Carswell):—(1) True Melanosis, of which there is only one kind. (2) Spurious Melanosis, of which there are three kinds—*a*, that arising from the introduction of carbonaceous matter; *b*, from the action of chemical agents on the blood; and *c*, from the stagnation of the blood.

1. True Melanosis.—True melanosis is probably a very diffuse and malignant form of melanotic sarcoma, much commoner in some domestic animals, especially grey horses, than in man. Extensive deposit of pigment occurs in the tissues all over the body and in several solid organs.

SYMPTOMS. In subcutaneous melanosis the tumours or nodules remove all difficulty as to diagnosis.—When internal organs are alone affected, the symptoms are obscure. Gradual sinking of the vital energies. A cachectic habit of body.

Dusky or ash-coloured countenance. Emaciation. Dropsy. Night-sweats. Gradual exhaustion.

TREATMENT. The symptoms to be combated as they arise. Cholagogue purgatives. Bark and mineral acids. Ferruginous tonics. Nourishing diet. Sea air.

2. Spurious Melanosis.—(1) *From Introduction of Carbonaceous Matter.*—The lungs—it occurs only in these organs—present a black carbonaceous colour; bronchial glands blackened; pulmonary tissue indurated and friable, infiltrated with black serum, and often broken down into irregular cavities. The discoloration has its origin in inhalation of carbonaceous products of ordinary combustion. Is chiefly found in lungs of those who have worked in coal mines.

(2) *From Action of Chemical Agents on the Blood.*—In digestion of coats of stomach by gastric juice after death, and in poisoning by acids, the blood contained in gastric capillaries, as well as that extravasated, will generally present a blackish tint. Sulphuretted hydrogen gas will also darken the blood in the intestinal capillaries.

(3) *From Stagnation of Blood.*—Retarded or impeded circulation may produce black discoloration of the blood. When blood ceases to circulate in capillaries of an organ it coagulates, the serum and salts become absorbed, and a black substance remains. This probably consists of fibrin and hæmatin. Occurs in the digestive and respiratory organs. Black pigment found in the blood in severe remittent and intermittent fever. Soft malignant tumours often contain black masses which are old extravasations of blood.

MELITURIA.—From Μέλι, honey; οὖρον, urine.—Sweet urine. —See *Diabetes Mellitus.*

MENIERE'S DISEASE.—A severe form of vertigo, due to disease of the ear or derangement of pressure in the labyrinth. There is usually deafness with tinnitus, and occasional attacks of giddiness in which the patient may fall down, feel confused and perhaps vomit. Certain movements of head attended with discomfort, or give rise to an attack. To be diagnosed from epilepsy commencing with aural vertigo.

TREATMENT. Remove cause. Quinine in large doses. Bromide of potassium. Salicylate of soda.

MENORRHAGIA.—From Μῆνες, the menses; ῥήγνυμι, to burst out. Synon. *Profuse Menstruation.*—An abnormal increase of the catamenia, either from hæmorrhage continuing too long, or recurring too often, or being excessive in amount, though normal in duration and time of appearance.

CAUSES. May arise from diseases producing anæmia:—Tuberculosis; Bright's disease; affections of spleen; undue lactation. Also from:—Excitement at monthly period. Excessive sexual intercourse. Inflammatory diseases of the uterus or ovaries. Displacement of uterus. Uterine and ovarian tumours, especially uterine fibroid or malignant disease; polypus, &c. When recurring after child-birth, may be due to retained fragments of placenta.

TREATMENT. Rest in bed or on sofa. Bromide of potassium. Gallic acid; cinnamon; sulphuric acid;—either remedy alone or all in combination, 103, 104. Ergot of rye. Periwinkle (*Vinca major*). Ammonio-sulphate of iron, 116. Turpentine. Opium. Indian hemp. Acetate of lead. Infusion of digitalis.

Local remedies:—Ice over pubes. Introduction of ice into vagina. Vaginal injections of very hot water. Vaginal injections of tannic acid or of matico. Astringent vaginal pessaries, 423. Galvanism (positive pole in uterus). If very severe, plugging vagina with cotton wool. In the intervals appropriate local treatment to the seat of mischief.—See *Uterine Hæmorrhage*.

METRITIS.—From Μήτρα, the womb; terminal, *-itis*. Synon. *Hysteritis; Inflammatio Uteri.*—Inflammation of the substance of the unimpregnated uterus. Muscular tissue of the body may be alone affected, or that of cervix, or that of whole organ will be involved. Endometrium usually takes part. Most commonly occurs as result of septic or traumatic injury; gonorrhœal infection. Cold at menstrual period, &c. &c.

SYMPTOMS. Acute metritis may set in suddenly with rigors followed by fever. More commonly, comes on gradually. Sense of fulness, weight, and heat about pelvis. Throbbing, with tenderness, about pubes, and groins, and perineum. Irritability of bladder. Nausea and vomiting. Diarrhœa with tenesmus. After first day, acute paroxysms of uterine pain. A mucous, sometimes sanguineous, discharge. Suffering relieved by recumbent posture. Resolution may occur. Very frequently subacute inflammation follows, pelvic connective tissue getting involved (*Parametritis* or *Perimetritis*): or inflammation may extend up Fallopian tubes (see *Fallopian Tubes*) and attack the ovaries, causing abscess, or set up peritonitis: or it leaves hypertrophy of uterus, induration of labia, abrasions, and leucorrhœa.

TREATMENT. *Acute stage*:—Complete repose. Simple diet: cooling drinks; iced water. Antipyretics if temperature is high. Quinine in large doses, or antipyrin or salicylic acid. Hot hip baths. If due to retained placenta or other cause of septic infection, uterus should be evacuated and washed out twice a day with hot antiseptic douche. Leeches to os uteri. Opium or morphia to relieve pain, preferably ¼ or ½ gr. morphia suppository. Opium and belladonna pessaries, 423. Ice; sinapisms to epigastrium; a few drops of chloroform on sugar.—for relief of gastric irritability. Mucous diarrhœa to be checked by opiate enema or suppository, 339, 340.

Chronic stage:—Corrosive sublimate, 27. Mercury, or iodide of lead pessaries, 423. Tonics. Nourishing food. Warm hip baths. Hot water douches, 110°. Moderate exercise in pure air. The appropriate local treatment for the remaining lesion.—See *Endometritis.*

METRORRHAGIA.—See *Uterine Hæmorrhage.*

MILIARIA. — From *Milium,* millet. Synon. *Miliary Fever; Miliaria Sudatoria; Exanthema Miliaria; Millet Seed Rash.*—A vesicular eruption; vesicles the size of millet seeds, containing a slightly opaque fluid, and surrounded by a narrow red margin. Occurs during progress of diseases attended with excessive sweating—rheumatic fever, and after abdominal sections and other operations, causing great rise of temperature. Miliary eruptions have occasionally been epidemic (miliary fever) and attended with much danger.—See *Sudamina.*

MINERAL DEGENERATION.—Every texture of the body is probably liable to become calcified. Occurs most frequently in the coats of arteries and in cartilages. Tubercular and cancerous growths sometimes undergo this change, and so may fibroid tumours of uterus.

(1) It is important to distinguish between ossification and calcification. *Ossification* does sometimes take place, with formation of dense or compact, and spongy or cancellated tissue, and occasionally even of periosteum.

(2) In *calcification* or *petrifaction* there is a deposit of the salts of lime in the intercellular substance. The coats of large arteries are often found brittle from this cause. Sometimes plates of mineral matter are discovered embedded in the middle coat of the vessels, rendering them hard and rigid tubes. So the gall-bladder, pericardium, &c., have been found converted into calcareous shells. Or tuberculous deposit in the lungs, and tuberculous glands may undergo calcification.

MOLLITIES OSSIUM.—From *Mollis,* soft; *Os,* a bone. A morbidly flexible condition of the bones, owing to an insufficiency of phosphate of lime.—See *Osteomalacia.*

MOLLUSCUM.—From *Molluscum,* a fungus that grows on the maple tree. Synon. *Ochthiasis; Acné Molluscoide.*—A rare cutaneous disease: of the order *Tubercula.* Consists of small tumours formed by an enlarged sebaceous gland. Vary in size from that of a pea to that of a pigeon's egg, occasionally of brown colour, sometimes growing from a broad base, and sometimes from a narrow peduncle, have usually a depressed spot on the summit. Two forms, one contagious, the other not. *Molluscum Contagiosum,* rare, severe, and chronic, most common in infants and children; may be seen on the face of a child and breast of the mother. Non-contagious molluscum, *Molluscum*

Fibrosum, is less severe; does not produce so much irritation as opposite kind: tumours fibroid, often numerous, after a time neither grow nor alter, but remain stationary for life. A cure can only be effected by snipping off the tumours, or by incising them and applying nitrate of silver. *M. contagiosum*, incise tumour, and squeeze out contents.

MORBILLI.—The dim. of *Morbus*, a disease.—See *Measles*.

MUMPS.—Synon. *Parotitis, Cynanche Parotidea.*—A specific and contagious inflammation of salivary glands, and of parotid gland, especially. Incubation period long, 14—21 days; contagious very early.

SYMPTOMS. Chilliness. Slight fever. Pains in limbs. Tumefaction and soreness in one or both parotid regions. Disease reaches its height in four days; then declines. Very rarely runs on to suppuration. Occasionally, during or after decline, testicles or mammæ become painful and swollen. Sometimes vomiting and collapse come on.

TREATMENT. Liquid diet. Cold acidulated drinks. Ice. Gentle laxatives. Solution of acetate of ammonia, 349. Carbonate of ammonia, 361. Hot fomentations. Linseed poultices.

MUSCÆ VOLITANTES.—From *Musca*, a fly; *Volito*, to fly about. Synon. *Flocci Volitantes.*—Little specks, or floating black spots, which fly over the field of vision. Due to shadows which the cells and filaments of the vitreous throw on the retina. Their presence generally gives rise to very unnecessary alarm. Quite compatible with lasting good sight.

MYALGIA.—From Μῦς, a muscle; ἀλγέω, to suffer pain.—Stiffness, cramp, soreness, or pain, in the voluntary muscles or their tendinous prolongations. Arises from fatigue.—Muscles of trunk more commonly attacked than those of extremities; of abdominal walls, than of thoracic; and of legs than of arms. Tendinous parts more frequently the seat of pain than the fleshy: *Lumbago. Pleurodynia. Rheumatic Torticollis* or *Cephalalgia. Omalgia.*

Myalgia common during progress of scurvy, tuberculosis, cancer, chlorosis, leucocythæmia, chronic dysentery or diarrhœa, prolonged lactation, exhausting uterine disease, &c. Also during convalescence from hæmorrhage, severe inflammation, parturition, continued fevers, &c.

SYMPTOMS. Pain: severe in proportion to the general debility; aggravated by any movement which calls affected muscle into play; seldom complained of in the morning after a good night's rest, but soon following upon a few hours' exertion, and gradually increasing towards night. General health more or less depressed. Skin cool. Pulse natural, or feeble and somewhat quickened. Appetite good. Tongue clean.

—In exceptional cases,—fever; night sweats; loss of appetite; impaired digestion; constipation; a disinclination for work of any kind; severe mental depression.

TREATMENT. Rest. Fomentations. Massage. Galvanism. Turkish bath. Lin. belladonnæ and aconite, 281. Internally,—salicylic acid. Potassium iodide, or salines. Subsequently quinine, steel, &c. Partial rest of affected muscle to be ensured by bandage. Vegetable diet with milk or cream: raw eggs, &c. Stimulants sparingly.

MYCETOMA.—From Μύκης, ητος, the mushroom. Synon. *Fungus Disease of India, Madura Foot.*—An endemic disease affecting the extremities and disorganising all the tissues. Peculiar to natives of certain parts of India who go about barefooted. The foot (or more rarely the hand, shoulder, or scrotum) swells to a great size, and pea-like projections form on its surface; they mark the orifice of deep sinuses whence issues a dark or clear discharge. In the course of a few years the part becomes entirely disorganised, the bones being riddled with holes, expanded and covered with coral-like osteophytes. In the pale variety no parasite can be found, but where the discharge is dark, black masses containing a fungus (*Chionyphe Carteri*) form in the diseased part. Precise pathology of mycetoma remains obscure. Amputation probably the only remedy of permanent benefit, scraping diseased bones often proving ineffectual.

MYELITIS.—From Μυελός, marrow; terminal *-itis*. Inflammation of the substance of the spinal cord is a rare disease. May be acute or chronic, is usually localized. When confined to nterior cornua of grey matter, known as polio-myelitis (see *nfantile Paralysis*); when chronic, connective tissue develops nd the part becomes hard, or *sclerosed*. Sometimes co-exists ith pneumonia, gastro-enteritis, and continued fever. Most ommon cause is disease of vertebræ. May be due to syphilis or xcited by cold, damp, wounds, contusions, &c.

SYMPTOMS.—Vary according to seat, extent, and acute or ronic character of inflammation. Speaking generally, they are, ll pain; paralysis of the parts below the seat of disease, with without rigidity, and with or without loss of sensation; early plication of the bladder and rectum. If *cranial* portion of rd be affected:—Deep-seated headache; convulsive movements of head and face; head drawn back; inarticulate speech; smus; difficult deglutition; impeded spasmodic breathing; egular action of heart; paralysis. If about to prove fatal in ute stage, great prostration; increased dyspnœa; involuntary cape of excretions. When whole thickness of cord above igin of phrenic nerves is attacked, death occurs rapidly from ssation of respiratory movements.—Inflammation of *cervical* rtion:—Difficult deglutition: impossibility of raising or supporting head: pain in back of neck; urgent dyspnœa; sense of pricking and formication in arms and hands; paralysis of upper and lower extremities.—Of *dorsal* region:—Pain over affected part; numbness or pricking sensations in fingers and toes; paralysis of lower extremities; dyspnœa; great palpitation.—Of *lumbar* portion:—Marked paralysis of lower extremities at early period; abdominal pain, with sensation, as of a cord tied tightly round body; retention, followed by incontinence of urine, owing to paralysis of bladder; involuntary stools, from paralysis of sphincter ani.

Pain in affected part of cord less severe than in meningitis; increased by application of heat (as of hot sponge), and by pressure. Bedsores very apt to form.

TREATMENT. Rest in bed. Light, nutritious diet. Ice-bag to spine, sinapisms, cautery, *pointes de feu.* Calomel and jalap, 140, 159. Jalap and senna, 151. Castor oil and turpentine enema, 190. Corrosive sublimate and sarsaparilla, 27. Iodide of potassium, 31. Ergotine. Great care necessary to keep patient dry and clean. Bladder to be emptied by catheter, unless urine be passed freely. Salol or salicylic acid if cystitis occurs. Bedsores to be prevented by amadou plaster, water-bed, &c.—Later: Quinine. Iron. Strychnine. Galvanism.

MYOCARDITIS.—From Μῦς, a muscle; καρδία, the heart; terminal *-itis.* Synon. *Carditis.*—Inflammation of muscular substance of heart.

Seldom occurs as a distinct affection: generally combined with pericarditis, or endocarditis, or both. Walls of left ventricle suffer more frequently than other parts. Action of heart feeble and frequent; dyspnœa; oppression; anxiety; sometimes death from failure of heart action.—Results,—induration of muscular structure from deposit of lymph; formation of abscesses; aneurismal dilatation of walls of heart; softening of heart, and possibly rupture.

MYOPIA.—From Μύω, to contract; ὤψ, the eye. Synon. *Hypometropia; Short-sightedness; Near-sightedness.*—When the distance at which ordinary type can be easily read is less than twelve inches, the vision is said to be myopic. Near objects are seen distinctly. Myopia most frequently arises from too great a convexity of the cornea, or of the crystalline lens, or both. May be owing to a lengthening of the eyeball (*axial myopia*): to an undue density of any or of all the refractive media (*refractive myopia*). The rays of light from objects at the usual distance are brought to a focus before they reach the retina, instead of being concentrated upon it. Sometimes associated with strabismus. Myopia rarely decreases as age advances, though popularly believed to do so. It is often hereditary.

In many cases of short-sightedness the iris is either preternaturally contracted, or it possesses unusual irritability. This occurs especially in individuals of a very nervous temperament. Exposure to bright light aggravates this condition. Snow-blindness chiefly due to it; consisting in a great measure of excessive contraction of pupil.

Treatment. Avoidance of overwork, examination of minute objects, &c., especially by gas-light.—Well-adjusted double concave glasses or spectacles: single eyeglasses are bad. The greater the degree of short-sightedness, the greater must be the concavity of the glasses. The glasses had better be worn only when required. Heat and congestion about the eyes to be relieved by the eye douche. Where the iris is unusually irritable belladonna gives relief. Where there is disease of choroid, a prolonged course of corrosive sublimate in small doses.

MYOSITIS —From Μῦς, a muscle; terminal *-itis*. Synon. *Inflammatio Musculorum.*—Inflammation of muscular fibre is a rare affection. May occur from injury, over-exertion, disease of adjoining textures, &c.

Symptoms. Pain: greatly aggravated by any movement of affected muscle. Heat and swelling; the latter often distinct, simulating a tumour. Symptomatic fever. May terminate in induration; or softening; or suppuration; or even gangrene.

Treatment. Hot fomentations. Rest. Opium. Nourishing food, in proportion to the failure of general strength.—See *Myalgia.*

MYXŒDEMA.—A peculiar swelling of skin and overgrowth of subcutaneous tissue, which is not associated with albuminuria or kidney disease, but has a close relationship to the cretinoid state. The fact that the thyroid gland is always small, and that the extirpation of this gland for bronchocele has been followed by myxœdema, makes it probable that atrophy of the thyroid is in some way the cause of the disease.

Symptoms. In a well-marked case all the features are swollen. The skin is yellow or sallow, with a red patch on each cheek, and the lips of a deeper colour than normal. The skin throughout the body is thickened, the connective tissue under the chin is thrown into folds, the hands become "spade-like," and the feet the same. The skin does not pit on pressure. The temperature is subnormal, and chilliness is complained of. The skin is dry and scaly, hair thin, nails stunted and brittle. Uvula, palate, and tongue swollen, so that articulation is difficult. Intellect is dull; mental disorder often supervenes, ending in coma.

Treatment. Keep patient warm; feed liberally. Tonics,—Iron or arsenic. Warm or vapour baths; and tinct. jaborandi ʒj, three times a day.

NÆVUS.—As if *Gnævus*, from *γενέω*, whence *γίγνω*, to be born, because the blemish is often congenital. Synon. *Angioma:*

Mother's Mark. A true tumour or new growth of more or less healthy blood-vessels abnormally arranged and distributed. Must be distinguished from different forms of varix. Even *aneurism by anastomosis* is now held to be a general varicosity of a group of arteries, veins, and capillaries, and not a new growth.

Varieties.—(1) *Simple angioma, teliangiectasis.*—Composed for the most part of capillaries, but well-developed arteries and veins may exist. They appear in the skin and subcutaneous tissue. Usually congenital. When small they form bright red spots, which gradually spread; when larger they appear as bluish or purple protuberances from the integument.

Vascular caruncle of the female urethra is ranked as a simple angioma.

(2) *Cavernous angioma, venous nævi.*—Form large growths, sometimes called *erectile tumours*, usually in the integuments, sometimes in viscera, the orbit, &c. May contain much fat (nævoid lipoma), especially in children.

TREATMENT. Simple angioma, when small, and not increasing in size, should be left alone. Spontaneous cure frequent. When advisable to destroy a capillary nævus, apply ethylate of sodium or fuming nitric acid, or touch with thermo-cautery. Diffuse superficial angiomata (port wine stains) are sometimes benefited by scarification. Prominent nævi may be cured by vaccination, making several punctures at circumference of nævus and one or two on surface so as to produce a confluent vesicle.

Removal by knife or ligature:—Use of knife advisable in nævoid lipoma, and in parts like the lip, where it is important to avoid a disfiguring cicatrix. The incisions must be made wide of the disease, or hæmorrhage will be great. Where the nævus has a distinct capsule, the tumour may be enucleated: using the knife cautiously, but keeping it close to the investing capsule.—Ligature, safe and convenient for prominent nævi, may be used in many ways. Amongst other plans, the ligatures may be passed subcutaneously around the nævus, and tightened so as to strangulate it, without involving the skin. Or a needle carrying a double China silk thread can be passed through the centre of the base of the growth, and the ligatures tied round each hemispherical division, first making an incision or groove through the skin in which the ligatures may lie. In either case, the ligatures may have to be tightened in four or five days, or an elastic ligature may be employed. As granulations form, any tendency to nævus growth must be checked by application of nitric acid.—In *cavernous angioma* within the orbit, or in other inaccessible parts, it has been found necessary to tie the nutrient vessel: ligature of the common carotid had been resorted to under such circumstances.

NASAL LIPOMA.—From Λίπος, fat.—Hypertrophy of skin and subcutaneous tissue of apex and alæ of nose, associated as a rule with acne rosacea. Most common in men, who are advanced in years and have lived very freely. When the growth is considerable, a cure can only be effected by paring off the redundant tissue. In other cases, increase in size may be prevented by careful diet; avoidance of intoxicating drinks; frequent use of astringent washes.

NASAL POLYPUS.—From Πολὺς, many; ποὺς, a foot. Nasal polypi are of three kinds:—Mucous, or gelatinous; fibrous; and malignant.

SYMPTOMS. In mucous polypus a sense of stuffiness in one or both nostrils. Frequent desire to blow the nose, with no relief on doing so. Increased mucous discharge. Attacks of bleeding—epistaxis. Impairment of smell and taste. When uninterfered with, displacement of septum of nose; deafness from pressure on Eustachian tube; indistinctness of articulation; deformity of cheek from expansion of bones; obstruction to tears; and even fatal cerebral pressure. These tumours very apt to return again and again, after removal.

TREATMENT. Removal by strong, toothed, slightly curved forceps, applied to neck of growth, so as to twist it off. Removal by the "noose,"—encircling the penduncle with a wire, and tearing away the tumour with it. Galvano-cautery still more effectual. The pedicle should be cauterised. Fibrous and malignant polypi form large tumours rapidly disfiguring the face, and requiring special surgical interference. Employment of tannic acid as a snuff. Astringent injections.

NECROSIS.—From Νεκρόω, to produce mortification or decay. The death of a portion of tissue. Usually applied to mortification, &c. Mortification or death of a bone, or portion of a bone. *Osteo-necrosis.*—May be acute, when it is very liable to cause pyæmia, or sub-acute, or chronic, when part of the shaft of a cylindrical bone dies, and is enclosed in a case of new bone. *Exfoliation* signifies necrosis of a thin superficial layer, which is not encased in any shell of new bone (Druitt).

Acute necrosis may attack any of the long bones, and is usually traceable to injury, which may be very slight in a debilitated constitution. The less acute form frequently attacks the tibia in children; the phalanges, from whitlow; the skull and clavicle, from syphilis. May arise, from mechanical injury, or from inlammation however set up. A peculiar form of necrosis of the ower jaw occurs amongst the makers of lucifer matches, being produced by the fumes of phosphorus.

SYMPTOMS. Of acute necrosis severe pain and very high ever with early delirium. Is is often mistaken for acute heumatism, but examination shows the pain and tenderness to e in the shaft of the bone and not in the joints. Pyæmic sympoms soon follow. In sub-acute necrosis indications of osteitis. uppuration, with formation of sinuses, or cloacæ; through which, on passing a probe, the bare dead bone (the *sequestrum* can be touched. Abundant fetid discharge. Inflammatory fever. Separation of sequestrum from the living bone after a variable interval. Disease very chronic.

TREATMENT. In the acute form an incision to be made at once down to the bone to set free the pus confined beneath the periosteum. Sometimes entire shaft of bone removed. Incision and removal of sequestrum as soon as it is detached, and when it can only act as an irritating foreign body. Use Esmarch's bandage. Dress cavities with antiseptics, and give tonics.

NEPHRALGIA.—Synon. *Renal Colic.*—Severe pain in region of kidney and along ureter ; usually due to passage of a calculus.

NEPHRITIS.—From Νεφρὸς, the kidney ; terminal *-itis.*—Under this head may be arranged for convenience :—Inflammation of the substance of the kidney ; acute desquamative nephritis ; chronic desquamative nephritis.

1. **Nephritis.**—Synon. *Suppurative Nephritis : Renal Abscess.*—Comparatively a rare disease. May arise without appreciable exciting cause, especially in strumous subjects ; from exposure to cold and damp ; gravel and calculi ; mechanical injuries : pregnancy ; poor living combined with intemperance ; abuse of diuretics ; use of cantharides, oil of turpentine, &c. May end in resolution ; or go on to suppuration, variable sized abscesses resulting, which sometimes destroy entire gland. Inflammation of mucous lining of pelvis and infundibula is known as *pyelitis. Pyelitis* consequent upon stricture of the urethra, stone in the bladder, &c., associated with acute inflammation of the kidney proper, has been called the Surgical Kidney.

SYMPTOMS. Severe pains in loins, increased by pressure or exercise : pain often extending along ureter to neck of bladder, groin, scrotum, or testicle. Numbness of thigh : retraction of testicle. Much constitutional disturbance : shivering, fever, nausea, and vomiting, hard and frequent and full pulse, constipation, tympanites. Frequent and urgent desire to empty bladder : urine high coloured, often contains renal casts with blood and pus corpuscles. Sometimes, suppression of urine ; with uræmia, convulsions, and coma. When recovery follows, foundation for future renal disease often laid.

When one or more abscesses form, they perhaps lead to ulceration, perforation of capsule, renal fistulæ, and establishment of a purulent discharge. Sometimes, fatal hectic fever. In more favourable cases, pus passes away by natural passages and is found in the urine.—Renal abscess may also be a secondary affection : due to irritation of a calculus, obstructive diseases of urinary passages, &c.

TREATMENT. Hot hip baths. Vapour or hot air baths. Fomentations. Poultices. Mild aperients. Diaphoretics, especially such as contain opium if there be no uræmic symptoms.

Rest in bed, preferably between blankets. Low diet; with tea, milk, ice, and simple diluents. Sinapisms to epigastrium if there be sickness.—Stimulants, tonics, and support as soon as prostration sets in, or there are indications of suppuration. Abscess to be opened. In chronic suppuration kidney may be removed.—See *Uræmia*

2. **Acute Desquamative Nephritis.**—Synon. *Tubal Nephritis; Nephria; Acute Desquamative Nephritis; Acute Albuminous Nephritis; Acute Bright's Disease.*—Or may be chronic from the first, coming on insidiously. Has its origin in many causes,—intemperance, starvation, exposure to wet and cold, pregnancy, but especially scarlet fever. Characterised by excessive proliferation of epithelium of convoluted tubes of kidneys, with congestion of Malpighian tufts. There is effusion of serum and fibrin from the congested Malpighian vessels into the tubes; the serum mingles with urine, and renders it albuminous; the fibrin coagulates in the tubes and forms casts, which may be detected in urine, usually entangling epithelium. Walls of vessels also usually give way, and blood corpuscles therefore found entangled in the casts; then urine will present a dark-coloured sediment. The undue proliferation of the epithelium of the tubes chokes them, and obstructs secretion. Kidneys large, soft, and very vascular; cortex pale from amount of epithelium in the tubes; Malpighian bodies form bright red points; pyramids dark and congested; kidneys much enlarged.

Occasionally there is general dropsy and albuminuria without desquamation of renal epithelium—*non-desquamative disease of kidney*. Often attended with prominent symptoms of blood-poisoning; owing to some failure and imperfection in effort to eliminate morbid material from system (George Johnson).

Symptoms. Chilliness, rigors: soon followed by feverish reaction, headache, thirst, restlessness, pain and tenderness about loins, vomiting. Dropsy: face puffy, general œdema and effusion of serum into one or more of serious cavities. Frequent micturition: urine scanty, of a dark smoky colour, highly albuminous, abundance of fibrinous and epithelial casts, renal epithelium, blood casts, and free blood corpuscles.—Earliest signs of amendment,—disappearance or lessening of dropsy; increase in quantity of urine; steady diminution of albumen. In unfavourable cases,—suppression of urine; uræmia, or effusion into serous cavities, peritoneum, pleura, pericardium.

Treatment. *At onset*:—Confinement to bed; preferably between blankets. Low diet: free allowance of milk, tea, whey cold water, barley water, lemonade, ice. Hot water baths. Blanket-baths, 136. Hot air, or vapour baths. Dry cupping to loins. Linseed poultices to loins. Compound jalap powder. Sulphate and carbonate of magnesia, 141. Sulphate of magnesia and antimonial wine, 152. Sulphate of magnesia, and sulphate of iron. Resin of podophyllum, 160. Elaterium, 157. Solution of acetate of ammonia. Citrate of potash. Nitrate of potash and nitrous ether, 212. Jaborandi. *At end of a few days:*—Tincture of perchloride of iron, 392, 397. Phosphate of iron, 405. Iron-alum, 116. Quinine. Animal food; milk; raw eggs. Bordeaux or Hungarian wines. Warm clothing: flannel next the skin. Avoidance of spirits and beer: of exposure to cold and damp. For dropsy, hydragogue purgatives. Tapping. For uræmic poisoning, see *Uræmia.*

Remedies occasionally employed:—Bloodletting. Cupping. Leeches. Blisters. Tartarated antimony. Colchicum. Digitalis and broom. Digitalia and acid tartrate of potash.

3. Chronic Interstitial Nephritis.—Synon. *Chronic Bright's Disease; Contracted Granular Kidney; Gouty Kidney; Cirrhosis of Kidney.*—May result from acute desquamative nephritis: more frequently due to chronic gout, plumbism, alcoholism, or some allied disorder. Pathology differently represented. According to Dr. George Johnson characterized by long-continued shedding of renal epithelium, which appears in urine in a more or less disintegrated state. The tubes lose their epithelial lining, and become atrophied or filled with new material; or sometimes get dilated into cysts. According to Virchow, Dickinson, and others, the morbid process is intertubular, consisting in proliferation and fibrillation, or cirrhosis of matrix in which vessels and tubes embedded, commencing at surface, extending inwards, strangling vessels and tubes. Kidney becomes granular and contracted. Urine pale, slightly albuminous: of a low density: contains granular epithelial casts.

SYMPTOMS. Come on insidiously. Run their course slowly. Health gradually fails. Debility and loss of flesh. Urine copious, pale, of low density, contains albumen often only in small amount; deposits whitish sediment, in which are granular epithelial casts and epithelium. Œdema usually only slight; sometimes anasarca or dropsy of one or more serous cavities. Inflammation of serous membranes. Resistance to circulation of blood, which is impure and deteriorated, whence high tension in arteries, hypertrophy of muscular coat of arterioles, and hypertrophy of heart, which is almost always present; sometimes valvular disease induced. Structural changes in, or great functional disturbances of, nervous centres. Retinitis and retinal degeneration. Death may result from uræmia, or from inflammation of lungs, pericardium, &c, or from cerebral hæmorrhage.

TREATMENT. Removal of prominent symptoms. Reduce arterial tension by nitro-glycerine gr. $\frac{1}{100}$. For feeble heart give digitalis. Simple nourishing food. Milk. Attention to functions of skin and bowels so as to lighten the work of the kidney. Cure of any gouty condition. Treat complications as they arise. Uræmic headache, pilocarpine, jalap. Vomiting, effervescing draughts, or tincture of iodine in water every hour, or cold compress to the epigastrium. Improvement of blood by ferruginous tonics. Sea air.

NEURALGIA.—From Νεῦρον, a nerve; ἄλγος, suffering.—Violent pain in the trunk or branch of a nerve, occurring in paroxysms, perhaps at nearly equidistant intervals. May attack nerves of head, trunk, or extremities: subcutaneous nerves of these regions suffer most frequently. Where branches of affected nerves pass through a foramen or pierce fascia to become superficial, tender points developed.

Varieties. When the pain affects branches of fifth pair of nerves,—*neuralgia faciei*, or *tic douloureux:* certain nerves about head,—*hemicrania:* sciatic nerve, *sciatica.*—Some authorities regard angina pectoris as neuralgia of cardiac nerves: gastrodynia, as a similar disease of nerves of stomach.

(1) *Tic douloureux:*—May affect either of three chief branches of fifth pair of nerves. Where pain depends upon morbid condition of first or ophthalmic branch, the frontal ramification of it—supra-orbital nerve—is most frequently atacked; suffering referred chiefly to forehead. Tender points over supra-orbital foramen and supra-trochlear notch, *Brow ague.* Supposing second or superior maxillary branch is seat of complaint, infra-orbital nerve most commonly affected; symptoms consist of excruciating pain shooting over cheek, lower eyelid, alæ of nose, and upper lip. Tender point over infra-orbital foramen and sometimes over malar bone. Tic douloureux of third or inferior maxillary branch is generally confined to inferior dental nerve, especially to portion which emerges from mental foramen and extends to lower lip; pain referred to lower lip, alveolar process, teeth, chin, and side of tongue. Tender point over mental foramen. A distressing and obstinate variety is when the act of eating or a touch in the area of the inferior division of the fifth nerve brings on a dart of exquisite pain in the cheek, neck, and tongue.

Whichever nerve suffers, the torture is usually confined to one-half of face. Attack comes on suddenly, patient at once putting up his hand to press the seat of suffering: it greatly increases in severity, gets lancinating and burning; often ceases suddenly. Attack perhaps preceded by derangement of digestive organs; by dyspnœa; by slight rigors followed by heat. Sometimes absent for weeks, and then almost constant paroxysms for many days. In some cases there is muscular spasm in the painful part, true "tic;" sometimes flushing or lacrymation. Often attended with spasm of the muscles. May be due to dyspepsia; anæmia; renal disease; disease of facial bones; organic disease of brain; disease of teeth or gums; poison of malaria, &c.

Treatment. Removal of cause. (Neuralgia, the cry of an mpoverished nerve for better blood.) Improvement of health. Purgatives, only if actually required. *General Remedies:*—Nourishing diet: regulated amount of bitter ale, stout, or other alcoholic stimulants; raw eggs: milk, in place of tea and coffee. Warm clothing; flannel next the skin, or chamois leather jackets and drawers. Warm, tepid, or cold salt water bath. Turkish bath. Friction of skin.

Drugs:—Aloes, gentian, and liquor potassæ, 148. Sulphate, or phosphate, of soda, 148, 149. Pepsine and aloes, 155. Quinine, 379. Quinine, steel, and arsenic, 381. Arsenic. Phosphorus. Cod liver oil, 389. Iodide of iron and cod liver oil, 390. Steel and pepsine, 394. Steel and arsenic, 399. Phosphate of iron, 405. Strychnine and steel, 408. Valerianate of zinc, quinine, steel, or ammonia, 410. Sulphate of zinc, 413. Hypophosphite of soda, or lime, 419. Iodide of potassium, 31. Guaiacum and aconite, 43, 330. Colchicum, 46. Turpentine, 50. Chloride of ammonium, 60. Opium, 340, 345. Morphia, &c., 317. Hypodermic injections of morphia, or atropine, 314. Chloroform inhalation, 313. Stramonium, 323. Belladonna, or atropia, 326. Digitalis, 334. Conium. Gelseminum, min. xx ter die. Salicin.

Topical Expedients:—Division of affected nerve. Nerve stretching. Removal of tumours and foreign bodies. Extraction of decayed teeth. Application of iodine. Blisters. Veratria, 304. Belladonna, with opium or mercury, 297, 298. Chloroform, belladonna, and aconite, 281, 282. Belladonna and glycerine, 265. Hypodermic injections of morphia, &c., 314. Hot douches of medicated water. Continuous galvanic current. Acupuncture. Dry cupping.

(2) *Hemicrania; Migraine*:—Headache affecting one side of brow and forehead. Visual disturbance (teichopsia), depression, languor. Often accompanied with sickness. Sometimes periodical; continues for years at intervals.

TREATMENT. *During Interval.*—Avoidance of over-fatigue, worry, or constipation. Careful diet. Tonics. Quinine. Iron. Strychnine, or hypophosphites. Bromide of potassium. Cannabis Indica. Nitro-glycerine. Spectacles. *During Attack.*—Lie down in dark room; cold to head; warmth to feet. Ice to suck. Soda water. Clear soup. Coffee. Caffein. Guarana. Antipyrin, gr. xv. Bromide of potassium, gr. xx, or chloral hydrate, gr. xxv, or butyl chloral hydrate, gr. x. Cannabis Indica. Nitrite of amyl or nitro-glycerine. Ergotine. *Locally.*—Veratria ointment. Menthol.

(3) *Sciatica*:—Acute pain following course of great sciatic nerve. Extends from sciatic notch down posterior surface of thigh to popliteal space, and often along nerves of leg to foot. May be due to pressure of intestinal accumulations, of simple or malignant uterine tumours. Other causes,—inflammation, rheumatism, gouty or syphilitic taint, malaria, over-fatigue, exposure to cold and wet.

TREATMENT. Rest. Hot fomentations. Hydrarg. perchlor. or iodide of potassium. Salicylate of soda. In gouty patients,—salines and purgatives. Sedatives. Morphia or cocaine injections. Croton oil (in sciatica from fæcal accumulation), 168, 191. Counter irritation. Liniments, 281 or 282. Negative pole twelve milliampères. Galvanism. Nerve stretching by flexing thigh on to thorax.

(4) *Other varieties:—Brachialgia.* Pain in branches of brachial plexus. Neuralgia of cervical plexus; great occipital nerve, &c. *Intercostal neuralgia.* Neuralgia of abdominal viscera. *Hepatalgia. Enteralgia*, &c.

NEURITIS.—From Νεῦρον, a nerve; terminal *-itis.*—Inflammation of a nerve, usually due to a bruise or wound, or to inclusion of some nervous branch in a ligature when taking up an artery. May perhaps arise spontaneously in gouty or rheumatic subjects, in syphilis, chronic alcoholism, lead poisoning, or after certain zymotic diseases. *Multiple neuritis* causing paraplegia occurs most frequently as a consequence of chronic alcoholism in women.

Symptoms. Severe and continuous pain along trunk of nerve and its ramifications with tenderness. Feverishness. Restlessness, especially at night. Wasting of muscles. "Smooth skin," *i.e.*, skin shining red, thin, sometimes other trophic changes, ulceration, &c. In chronic form, symptoms of neuralgia. Might be mistaken for rheumatism or inflammation of bone. Symptoms vary according to the cause, and the particular nerve implicated.

Treatment. Mercury in small doses. Iodide of potassium. Aconite. Colchicum. Local use of belladonna. Acupuncture. Indian hemp. Hypodermic injection, in neighbourhood of pain, of morphia or aconite, 314. Fomentations. Counter-irritation. Water dressing. Rest of affected part. Galvanism.

NEUROMA.—From Νεῦρον, a nerve.—This term usually applied to a tumour developed in the connective tissue of a nerve of a fibrous or myomatous nature. Nerve fibres spread over tumour, without being involved in its texture. Painful cutaneous tumours, probably a variety of neuroma. May form spontaneously. Single, more painful than multiple, growths.

True neuroma, or tumour made up of nerve tissue, occasionally produced on ends of nerve after amputation.

Symptoms. Neuromatous growths vary in size from a barleycorn to a melon. Occur most frequently on spinal nerves: branches of ganglionic system very rarely affected. Growth steady but slow. Of an oval or oblong form; long axis corresponding with direction of nerve to which there is attachment. Darting pains: much increased by moving tumour in direction of nerve. Occasionally convulsions, induced by pressure or motion of growth.—In traumatic neuroma, growth single: source of paroxysmal pains, like shocks of galvanism.

Treatment. Excision offers the only hope of cure. Tumour to be carefully dissected out, if possible. When complete excision is adopted, the ends of divided nerve to be brought into apposition by sutures: by maintaining continuity there is no loss of power in parts supplied by the nerve. In syphilitic cases, mercury or potassium iodide.

NIPPLE, DISEASES OF.—The nipple or mammilla may be the seat of certain morbid processes. The chief are,—chronic eczema and psoriasis. These are excoriations covered with rather thick crusts. Aggravated by pressure against stays. Psoriasis of nipples has a great tendency to set up malignant disease of the ducts. May sometimes be cured by lime liniment, zinc ointment, or lotions of sulphate of zinc. In obstinate cases, arsenic, 52. When malignant disease threatened, the mamma should be removed.

Inflammation of nipple very common at commencement of lactation. Exquisitely painful ulcers or abrasions form,—"fissures," "chaps," or "cracks." The acute suffering sometimes impairs general health; there is constant dread, mental depression, loss of appetite, restless nights. The disease may often be prevented by bathing nipple night and morning, during last few weeks of pregnancy, with astringents,—Port wine, brandy, or saccharated lime water. Numerous curative measures recommended; the most efficient being, collodium, 285. Solid nitrate of silver, but it causes great pain on first application. Sulphurous acid, or glycerini acidi tannici and acidi sulphurous equal parts. Tincture of catechu. Lead or zinc lotions, 264. Balsam of Peru and spermaceti ointment, 306. Glycerine, or almond oil. Lime liniment. Borax and glycerine lotion, 268. Dusting with powdered spermaceti, or oxide of zinc, tied up in a muslin bag. Nipple to be well dried after nursing: child not to be allowed to lie with it in the mouth, after a proper meal. Goldbeater's skin. Nipple-shields, of glass or boxwood or vulcanised india-rubber, to afford protection during suckling. Mucous membrane of infant's mouth to be examined, so that any aphthous or other morbid state may be rectified. Other means failing, infant to be nursed only from sound breast.

Paget's Disease of the Nipple.—This term signifies a very obstinate eczematous affection, in the course of which cancer is developed. The nipple displays a bright raw surface, with a free, clear exudation. After lasting for a year or two cancer develops in the glandular tissue underneath it, and the nipple becomes retracted. The disease is probably malignant from the first (Duhrring). True eczema with crusts, &c., may be followed by cancer.

TREATMENT. Watch a bright red patch on the nipple very closely, especially if it be slow to heal yet free from crusts. Apply emollients. Removal of breast if cancer develop, as in such cases the new growth is usually highly malignant.

NOSTALGIA.—From Νοστέω, to return; ἄλγος, suffering. Synon. *Nostomania; Home-sickness.*—The ungratified desire to return home may give rise to symptoms of melancholia. Great bodily and mental depression. Loss of appetite. Inability to procure sound sleep. In some cases there has been a gradual wasting, delirium, and fatal prostration. When other diseases supervene on nostalgia, the danger of the former is greatly increased. Kind treatment, amusement, outdoor exercise, nourishing food, remedies to induce sleep, and attention to the secretions, may afford relief for a time. A temporary return home often suffices to effect a cure.

OBESITY.—From *Obesus*, fat or gross. Synon. *Polysarcia; Polysarcosis.*—The over-accumulation of fat under the integuments and around some of the viscera constitutes obesity. Not to be confounded with fatty degeneration of tissues. The term *corpulency* to be retained for those cases where the amount of fat does not constitute a disease.

SYMPTOMS. Impeded play of various important organs. Diminution of bodily and mental activity. Disturbances of organs of respiration, circulation, and digestion. Panting on slight exertion. Blood comparatively deficient in quantity or quality. Weakness of muscles. Countenance bloated and sallow. Liability to gouty and neuralgic affections. Obesity not conducive to longevity. Sudden death not uncommon.

CAUSES. Hereditary tendency. Over-feeding. Consumption of large quantities of fluid. Indolence, and too much sleep. Excessive use of fatty, farinaceous, vegetable and saccharine foods. Fat is formed in the body from food containing it ; also from chemical transformation of starch and sugar.

TREATMENT. *Hygienic* :—Diet of meat, white fish, green vegetables, biscuit or dry toast, tea, claret, sherry. Avoidance, more or less complete, of bread, butter, milk, sugar, beer, potatoes, beans, and soup. Exercise. Seven hours for sleep.

Diminution of weight not to exceed one pound a week. General health, state of appetite, and condition of bowels to be watched.

The following rules are useful :—

Rise at 7 A.M.

For Breakfast at 8 :—Tea or coffee sweetened with saccharine, very little milk or cream, dry toast, meat, ham, poultry, fish, eggs, game, water-cress, lettuce, mustard and cress.

For Luncheon at 2 or Dinner at 8 :—Fish, poultry, ham, beef, mutton, game, spinach, water-cress, salad, semolina, cream cheese, rusk, dry sherry, claret, unsweetened spirits diluted.

Bed at 11. Only three meals a day. Meat each time. Avoid everything not mentioned above. Fluid should not exceed half-pint at each meal. Carlsbad salts should be taken twice a week. Walking exercise as much as practicable.

Remedies employed :—Turkish baths. Purgatives. Preparations of iodine and bromine. Fucus vesiculosus. Aperients twice a week, or saline aperient. Mineral waters of Carlsbad, Homburg, Brides, Salins (Savoy), &c. &c., or iodo-bromated waters. Kreuznach or Woodhall Spas.

ŒDEMA.—From *Οἰδέω*, to swell. Localised dropsy of the subcutaneous areolar tissue.—See *Anasarca; Dropsy.*

ŒSOPHAGEAL CANCER.—From *Οἰσοφάγος*, the swallow. Synon. *Cancer of the Gullet.*—May occur through whole length and circumference of tube. Usually develops at level of circoid cartilage, or at cardiac end of stomach. Generally of epithelial variety, fatal within a year from commencement.

SYMPTOMS. Soreness of throat. Difficulty in swallowing. Occasionally cutting pain in ears. Frequent, sometimes constant, sickness. Decided obstruction: after a time, not a particle of food reaches stomach. Formation of a pouch above constriction, in which food lodges, returning unaltered. Burning pain in canal, back, or between shoulders. Cough, or hiccough. Hæmorrhage. Wasting. Debility. Cancerous cachexia.

TREATMENT. Ice, to relieve thirst. Iced milk. Opium, or morphia, 315, 317. Opium by rectum, 339, 340. Subcutaneous injection of morphia, 314. Nutrient enemata, 21, 22, 23. Sometimes, a large gum elastic catheter (No. 14) may be passed through contracted œsophagus and left in: so that cream, solution of raw beef, wine and opium may be injected through it every four or six hours. Gastrotomy may prolong life for many months.

ŒSOPHAGEAL STRICTURE.—From *Οἰσοφάγος*, the swallow.—Stricture of the gullet may be organic or functional (spasmodic):—

1. **Organic Stricture.**—Generally the result of an attempt to swallow some corrosive poison.

SYMPTOMS. At first, vomiting. Pain about œsophagus, perhaps darting through to between shoulders. An apparent cure, after rest and simple diet and demulcent drinks.—At end of some nine or twelve months, dysphagia, which increases gradually; emaciation from inability to take solid food, which has been gradually increasing for several weeks.—A gum elastic catheter can generally be introduced; through which solution of raw beef, cream, and port wine can be injected into stomach. By gradual use of larger and larger tube, stricture appears to be cured. Patient is perhaps removed from observation; but in a few months all the symptoms return: the wasting and anæmia become extreme: no instrument can be passed down œsophagus: and death occurs from starvation, in spite of nutrient enemata.

TREATMENT. The only remedy of any avail, consists of dilatation by frequent use of bougies for many months. At first, a gum elastic catheter can be constantly worn. Subsequently, a bougie ought to be introduced at least twice a week.—In hopeless cases, it may be justifiable to perform gastrotomy, forming an opening sufficiently large to allow of daily introduction of food.

2. **Spasmodic Stricture.** *Œsophagismus.*—Like the urethra and

bronchial tubes, the œsophagus may be affected with spasmodic contraction. Young hysterical women subject to it.

Symptoms. Difficulty in swallowing. Sense of fulness and choking under influence of any excitement. Languor. Anæmia, &c. Spasmodic cannot be confounded with permanent stricture, because dysphagia is only temporary: a bougie passes with little or no difficulty: symptoms aggravated when patient's attention is directed to them.

Treatment. Ammonia and assafœtida, 86. Ether and chloroform, 85. Assafœtida and chiretta, 89. Valerianate of quinine, 414. Valerianate of zinc, 410. Phosphate of zinc, 414. Strychnine and steel, 408. Compound iron mixture and aloes, 393. 393. Cod liver oil. Galvanism. Cold shower bath. Nourishing food. Cure of any general or uterine disorder which may be present.

ŒSOPHAGITIS.—From Οἰσοφάγος, the swallow (οἴω to carry: φάγω, to eat); terminal *-itis*.—Inflammation of the œsophagus very rarely a primary disease. Generally a result of strumous diathesis; of one of eruptive fevers; of abuse of alcoholic drinks, or irritating drugs; of use of acrid poisons, &c.—Characterised by dysphagia: symptomatic fever; burning pains shooting from throat to between shoulders; fits of coughing, hiccough; constipation, &c. Suppuration, ulceration, or gangrene may result.

Simple ulceration of œsophagus is attended with difficulty in swallowing; sometimes so great that deglutition is impossible. Pain at epigastrium, or top of sternum, or between shoulders. Nausea; anxiety; emaciation and debility. Ulceration may extend into trachea, pleura, bronchial tube, pericardium, or aorta. Stricture may result from cicatrisation of ulcer. Remedies consist of ice to suck; mucilaginous drinks; milk or cream; nutrient enemata; hot fomentations to throat; and perfect quiet, even talking being forbidden. Opium to relieve pain and procure sleep. Where death is approaching from starvation, the formation of a gastric fistula should be attempted.

OLIGÆMIA.—From Ὀλίγος, little; αἷμα, blood. Deficiency of blood.—See *Anæmia.*

ONYCHIA.—From Ὄνυξ, a nail.—An inflammation of the matrix of the nail. May arise from mechanical injury; or from depraved state of constitution, as struma, syphilis, or eczema, psoriasis, or tinea of the matrix.

Symptoms. Pain and swelling at root of nail, and about surrounding textures. Exudation of sanious discharge on pressure of nail. Nail gets raised, and finally detached, exposing a foul ulcer. Ulcer becomes glazed and irritable; perhaps extends in all directions. Occasionally, necrosis of distal phalanx.

Treatment. Removal of nail. Ulcer to be dressed with zinc lotion, 264. Nitrate of silver. Nitrate of lead ointment. Iodoform. Arsenic, chlorate of potash, and bark, 402. Quinine and steel, 380. Cod liver oil. Nourishing food.—In syphilitic onychia,—Red iodide of mercury, 54. Mercurial vapour bath, 131. Solution of corrosive sublimate, 27. Iodide of potassium, 31.

If one of the lateral walls of nail affected—In-growing of the Nail. Inflammation and ulceration of side of toe, owing to margin of nail being pressed into the flesh. Ulcer gets covered with flabby and sensitive granulation. Causes great suffering, especially during walking.

TREATMENT. Removal of pressure of boot. Nails to be ordinarily cut off square, instead of down inner and outer sides. Scraping centre of nail very thin, soaking in hot water, and introduction of pellet of cotton wool so as to separate nail from ulcer. Removal of offending half of nail: anæsthesia, or ether spray. Subsequent dressing with zinc lotion, 264. Excision of bulbiform enlargement close to edge of nail, leaving a sloping surface with the nail overhanging raw surface.

Paronychis. *Thecal Abscess.*—An acute inflammation of the sheath of a flexor tendon of finger. Usually from a poisoned wound in a person out of health.

SYMPTOMS. Redness; intense pain; swelling; lymphatics above elbow and in axilla become tender. In neglected cases necrosis of one or more phalanges.

TREATMENT. Place entire forearm in hot water as long as possible. Deep incision in middle line of finger. Poulticing. Removing of sequestrum if phalanx necroses. Sometimes amputation of finger necessary.

OÖPHORITIS.—Synon. *Inflammation of the Ovary; Ovaritis.*—Inflammation of the ovary is frequent, but rarely isolated, almost constantly associated with pelvic peritonitis (perimetritis), or inflammation of the tube (salpingitis), or both. Inflammation of the ovary occurs under two forms,—the acute, and subacute, or chronic:—

Acute Oöphoritis.—Occurs from chills during menstrual period, sexual excesses, gonorrhœa, as a complication in certain fevers, and after operations on the cervix, &c.

SYMPTOMS. In addition to signs of peritonitis, the swollen and tender ovary can be detected on bi-manual palpation. Abscess sometimes forms.

TREATMENT. Hot hip-baths. Hot water douches. Morphia and belladonna suppositories. Poulticing to corresponding iliac fossa. Rectum to be emptied by olive oil enemata. Perfect rest in bed for at least a week after subsidence of symptoms. If an abscess point in vagina, it must be cautiously opened and kept clean by means of antiseptics.

Chronic Oöphoritis.—A common disease during period of sexual life. Usually results from negleted acute oöphoritis. Tendency to adhesions to Fallopian tube, intestines, omentum, and back of uterus; later to a kind of cystic degeneration; the ovary may ultimately form a small unilocular cyst, which fuses with a dilated cystic tube, forming a tubo-ovarian cyst; or the ovary may undergo a cirrhotic change, becoming hard and contracted with an irregular surface.

SYMPTOMS. Frequent recurrent attacks of pelvic pain, more or less severe, accompanied sometimes with fever. Pain in one or both iliac fossæ more usual, as also dyspareunia and difficult defæcation. Catamenia nearly always abnormal; usually menorrhagia. On bi-manual palpation a tender body can often be felt, but it is not easy to distinguish a diseased ovary from a diseased tube; both organs are usually involved in these cases. Cirrhosis of the ovary is probably the least complicated form of chronic oöphoritis. There is constant dull pain in the iliac fossæ, with nervous symptoms, and dysmenorrhœa, with scanty flow.

TREATMENT. Rest, without demoralising the patient by invaliding her. Sexual intercourse to be avoided. Bowels to be kept open by saline aperients. In obstinate cases, where subacute attacks of peritonitis frequently occur, the tube and ovary may require removal. Abdominal section, breaking down adhesions, so as to liberate the tube and ovary, and drainage, is sometimes sufficient when the tube is not permanently obstructed and the ovary free from cystic degeneration. Removal of appendages does not always cure the pain in the iliac fossæ, as the stump of the pedicle may irritate.—See *Fallopian Tube, Diseases of; and Perimetritis.*

OPHTHALMIA.—From Ὀφθαλμὸς, the eye.—A general term for inflammation of the eye.—See *Conjunctivitis*, &c.

OPHTHALMIA TARSI.—From Ὀφθαλμὸς, the eye: Ταρσὸς, a curdle. Synon. *Blepharitis; Tinea tarsi.*—Eczematous inflammation of the palpebral conjunctiva and edge of eyelids; with ormation of minute pustules at roots of eyelashes, the discharge from which produces small crusts, matting the hairs ogether.

SYMPTOMS. When acute, considerable pain and soreness. Usually chronic:—Itching; destruction of tissues which secrete he hairs; a blending of the skin and conjunctiva into a red hining cicatrix. Obliteration of puncta, causing stillicidium chrymarum.—See *Epiphora.*

TREATMENT. *Internally:*—Improvement of general health. onics. Alteratives. Arsenic and steel. Cod liver oil. Animal ood: milk. Change of air.—*Locally:*—Great cleanliness to revent accumulation of crusts. Eyelashes to be cut off close r removed. Unguentum hydrargyri nitratis ʒj to vaseline ℥j, o be applied three times a day with the finger. If the lid is ery red and swollen, apply nitrate of silver gr. xx to ℥j. In obliteration of the lower punctum, the whole course of the canaliculus to be slit up to the caruncle, so as to lay open the canal and extend its orifice backwards to the point where the tears accumulate (Bowman). Tinted glasses should be constantly worn.

ORCHITIS.—From Ὄρχις, a testicle; terminal *-itis.* Inflammation of the testicle.—See *Testitis.*

ORTHOPNŒA.—From Ὀρθός, erect; πνέω, to breathe.—Excessive difficulty of breathing, so that the sufferer has to maintain erect position. Often present in asthma, bronchitis, pneumonia, dropsy, valvular and other affections of the heart, &c.

OSTEITIS.—From Ὀστέον, a bone; terminal *-itis.* In compact tissue of a bone, the vessels being easily obstructed, necrosis is a probable result of inflammation (see *Necrosis*). Thus the petrous portion of the temporal bone or the entire shaft of a long bone may rapidly perish. In the cancellous tissue congestion and exudation processes may continue for a long time, the lamellæ undergoing slow absorption (see *Caries*). Lastly sclerosis or extreme condensation of the osseous tissue may result (*Osteitis*). Paget's "Osteitis deformans" is probably an extreme form of chronic sclerosis.

Symptoms. Fever. Deep-seated pain, symptoms of necrosis or caries (which see). In sclerosis distinct enlargement of affected bone, aching at night, especially in cold or damp weather. In osteitis deformans the bones of the cranium and lower extremities slowly enlarge; in the course of several years other bones may be involved, and there is a tendency to development of sarcoma in the affected parts of the skeleton.

Treatment. In early stages, as for periostitis, caries, and necrosis. In chronic sclerotic form, iodides and alkaline carbonates with tonics. Good food. Waters of Woodhall Spa, Aix-la-Chapelle, Wiesbaden, &c.

OSTEOID TUMOUR (*Osteo-sarcoma*).—From Ὀστέον, a bone.—The term is correctly applied to a form of sarcoma of a structure resembling the osteoid tissue found under the periosteum in rickets. This tumour usually grows from some bone, and especially from the lower part of femur. It expands and destroys the bony structures, and is usually attended with severe pain. It is malignant and quickly fatal; and gives rise to secondary deposits in connective tissue, lymphatics, lungs, &c.

OSTEOMALACIA.—From Ὀστέον, a bone; μαλακός, soft. Synon. *Mollities Ossium; Malacosteon.*—The characteristic features of this disease are loss of bone salts and deposit of fat, so that they become soft and unnaturally flexible; the periosteum is not involved. The morbid action induces fatty degeneration of the osseous tissue. The affection is constitutional, and has been attributed to the presence of lactic acid in the blood dissolving out the lime-salts. The whole skeleton is usually affected, producing distressing and remarkable deformity. Women beyond the age of forty are most obnoxious to it: the pelvis often first attacked in childbearing women. Cæsarean section often necessary. Large quantities of earthy salts are passed in the urine. The general health becomes hopelessly impaired: gradual loss of flesh and strength. Severe and intractable pains of a rheumatic character: spontaneous fractures. Sooner or later, in spite of tonics and opiates and nourishing food, death.

OSTEOMYELITIS.—From Ὀστέον, a bone; μυέλος, marrow; terminal *-itis.* Inflammation of the soft tissues of a bone. If acute, necrosis almost inevitable.

Generally the result of injury: a frequent cause of death after amputation and other operations on bone, sometimes follows destructive inflammation of a joint, or may occur from pyæmic poisoning. The symptoms are usually obscure, being masked by accompanying inflammation and suppuration of soft parts. High fever with pain, sometimes taken to be acute rheumatism. It causes the periosteum to recede or separate from surface of the bone. But little modified by medicines. Free incision. Removal of entire shaft of bone, leaving the periosteum. Amputation of limb, or of remainder of limb, often necessary—See *Osteitis.*

OTALGIA.—From Οὖς, the ear; ἄλγος, pain. Synon. *Earache.* —Usually symptomatic of *acute catarrhal inflammation of the middle ear*, or of presence of foreign bodies in external meatus, or of tonsillitis, or of disorder of primæ viæ, or of rheumatism of the head &c.; or it may be *idiopathic*,—true neuralgia of auditory nerves. In latter case, suffering most severe on invasion; unlike the pain in otitis, it does not increase in severity, is unattended by fever, and often disappears suddenly. Nervous otalgia may be connected with imperfect performance of functions of stomach or liver; or may arise from uterine derangement; or may occur in early stage of utero-gestation; or may be due to a carious tooth, the branches of the fifth pair of nerves supplying both the tooth and the ear; or it perhaps alternates with sciatica, tic douloureux, &c. Sometimes pain very severe; it frequently shoots through nervous filaments distributed over same side of face and head, causing much suffering and restlesness.

Treatment. When symptomatic, attention to be directed to primary disease.—When idiopathic, mild purgatives; quinine. Application of a small blister behind affected ear; or a leech in front of the tragus; local use of chloroform vapour, aconite liniment, cocaine (10 per cent. solution), cotton wool saturated with laudanum, steam of decoction of poppy heads, linseed poultices, the boiled bulb of common onion or of garlic. Carious teeth to be extracted or stopped. Use of Politzer's bag often useful by dilating the Eustachian tube and giving vent to pent-up pus.

Tinnitus Aurium.—Noises in the ears, deafness, confusion in the head, &c., may arise from a great number of conditions,—Overwork, prolonged suckling, large doses of quinine or salicylate of soda, indigestion, debility, chlorosis, aural catarrh, closure of Eustachian tube, cerebral disease, and other organic and functional disturbances, of which one of the most common and easily cured is *accumulation of cerumen* in external meatus. The wax to be removed by thoroughly syringing with warm water, or with solution of carbonate of potash (gr. 10 to fl. oz. j.) Avoid mistaking deafness and singing in the ears, owing to the pressure of a mass of hard wax on the membrane of the tympanum, for symptoms of incipient cerebral disease. In other cases galvanism (continuous current applied direct to the tympanum has effected a cure). Puncturing membrana tympani. Anæmia, aural catarrh, &c., must be dealt with by their suitable remedies.

OTITIS.—From Οὖς, the ear; terminal *-itis.* Synon. *Inflammatio Auris; Inflammation of the Ear.*—Various parts of the organ of hearing may be attacked. May be acute or chronic, and affect the external meatus or the inner ear.

1. Inflammation of External Meatus.—Synon. *Otitis Externa; Otitis Catarrhalis.*—The sensitive dermis of the canal may become inflamed from introduction of irritating matters, an accumulation of hard wax, blows on side of head, syphilis, gouty state of system, impoverished blood, cold-water bathing, and after zymotic diseases.

SYMPTOMS. Dull aching pain, increased on moving jaw. Vascularity and tumefaction, the latter sometimes closing canal and causing temporary deafness. Swelling of cervical glands on affected side. In a day or two, a copious secretion of mucus,—often very thin and abundant. In chronic cases, persistent otorrhœa; the dermis remains more or less tumid; epithelium thrown off in scales which accumulate and obstruct canal; diminished power of hearing; great itching; and general depression.

A small circumscribed abscess in the meatus will cause acute throbbing pain; narrowing of aperture of canal; dulness of hearing. Often occurs when there is a tendency to boils or styes.

TREATMENT. The general health to be improved. Nourishing food, with plenty of milk, when digestion is good. Quinine. Iron. Chlorate of potash. Colchicum? Cod liver oil. Sea air. —*Locally*:—Fomentations and poultices; frequent bathing to remove the irritating discharge. If much pain and swelling, a couple of leeches to margin of meatus will relieve congestion.

Collection of epidermis must be removed by syringing with warm water; mild astringent injections generally useful; glycerine or olive oil. Sometimes the cure is hastened by application of small blisters over mastoid process.

2. **Inflammation of Membrana Tympani.**—Synon. *Myringitis.*—May be acute or chronic. The consequence of cold; of irritating matters; of gouty, tubercular, or syphilitic taint; of the extension of disease from walls of meatus; rarely confined to the drum-head, but extends either inwards or outwards.

Symptoms. Deep-seated pain in ear, throbbing, fulness, tinnitus aurium, sometimes bleeding from ear, suppuration, perforation. On examination with speculum, membrana seen to be opaque, and traversed by distended vessels. Ulceration may take place, and even lead to perforation. Another result to be feared is permanent relaxation of the membrane; which loses its natural degree of resiliency, becomes flaccid, and falls in towards the promontory. A third consequence is thickening and hypertrophy of the fibrous laminæ.

Treatment. When due to gouty, strumous, or syphilitic taint, the appropriate remedies for these conditions are needed. In other respects the treatment is the same as for inflammation of external meatus. Leeches in front of tragus. Warm weak carbolic lotion, gr. j in ℥j, to be poured (*not syringed*) into the external meatus four times a day. When there is perforation, artificial membrana tympani,—a thin circular plate of gutta percha with a silver wire handle; or a layer of moistened cotton wool with a thread attached to it.

3. **Inflammation of Tympanic Cavity.**—Synon. *Internal Otitis; Suppurative Catarrh of Middle Ear.*—A severe disease. Rendered more serious by being usually combined with inflammation of the internal layer of the membrana tympani.

May arise from cold, rheumatism, or gout, scarlet fever, measles, and the strumous constitution. Not uncommon in youth: many cases of children's earache, causing miserable nights, really due to it.

Symptoms. Uneasiness in ear on blowing nose or on swallowing: in a short time the discomfort becomes continuous. Bulging of tympanum. There may be violent headache; followed by intense and sharp and gradually increasing pain in ear with loud or beating noises. Then, a sense of bursting or distension in ear; more or less deafness. Eyes become injected; countenance anxious; skin hot; pulse frequent; functions of kidneys and bowels disordered. Delirium often present; or, in children, convulsions. Always great depression; foreboding of some heavy calamity. Facial paralysis (caused by inflammation extending to bony canal in which portio dura passes round tympanum) may occur: power regained as morbid action subsides. Termination in one of three ways: either by resolution; by suppuration, the pent-up pus bursting through membrana tympani, and so discharging itself ; or by inflammatory process spreading through mastoid cells internally, or by bony lamina to periosteum covering mastoid process externally.

In external otitis, perforation of membrana tympani may take place owing to extension of ulceration from without inwards. In present case, the reverse happens ; morbid action progresses from within outwards. This latter the most frequent cause of formation of an orifice ; fortunately the opening generally closes spontaneously in the course of a week or two.

TREATMENT. To be conducted with caution. Bowels should be moderately acted upon ; action of skin promoted ; patient kept in bed in a quiet room. Pus to be evacuated by Politzer's method, or tapping of tympanum at the most prominent spot.

Salines, 348. Refrigerating drinks, 355, 356. Chlorate of potash, 360. Where there are manifestations of rheumatism or gout, iodide of potassium and colchicum, 31. Opium or morphia, 315, 317. Aconite, 330, 331.—*Locally* :—Vapour of boiling water. Fomentations with poppy heads, chamomile flowers. Linseed, onion, or garlic poultices. Small blisters to mastoid process. When abnormal aperture in membrana tympani fails to close, attempts to be made to induce cicatrisation by daily use of weak solutions of zinc, lead, or alum, often changed. This failing, and opening being of such a size as to cause deafness, application of artificial membrane, after producing healthy state of lining tissues of tympanum by mild astringent lotions and gentle syringing.

OTORRHAGIA.—From Οὖς, ὠτὸς, the ear ; ῥήγνυμι, to burst out. —Hæmorrhage from the ears arises from different causes :—(1) Fracture of base of skull, by which a communication is established between sinuses of dura mater and middle ear. The membrana tympani being ruptured, blood escapes externally. If both petrous bones be injured, hæmorrhage from both ears. Occurrence of bleeding, on one or both sides, generally regarded as of unfavourable import.—(2) *Wounds and ulcerations of auditory canal;* whether produced by earpicks or other instruments, insects, foreign bodies voluntarily introduced, or old hardened ceruminous concretions. To be stopped by extraction of foreign body.—(3) *Granulations, polypi, and abscesses of auditory canal.* To be cured by removal of polypus, use of nitrate of silver to granulations, or incision into abscess.—(4) *Caries and necrosis of petrous portion of temporal bone, with destruction of membrana tympani.* If walls of carotid canal be involved, a spiculum of bone will possibly wound internal carotid artery, and cause fatal loss of blood. Ligature of common carotid may have to be resorted to.—(5) *Rupture of membrana tympani;* which may occur during ascent of high mountains, or in descent of low valleys, or in going to any great depth in a diving bell, or from concussion of cannon-firing, &c. ; during violent sneezing or vomiting ; or during paroxysms of hooping-cough or asthma. The air is violently forced through Eustachian tube into tympanum, the delicate membrane of which gives way where it is least capable of offering resistance—near insertion of handle of malleus. The bleeding to be checked by swabbing meatus with styptics. Subsequently, an artificial tympanum may be needed to relieve deafness.—And (6) *It may be a vicarious hæmorrhage—i.e.*, it may perhaps replace menstruation, or long-continued bleeding from piles or old ulcer, or occur in purpura, yellow fever, or malignant small-pox.

OTORRHŒA.—From Οὖς, ὠτὸς, the ear; ῥέω, to flow. Synon. *Chronic Suppurative Inflammation of the Ear.*—A purulent or muco-purulent discharge from the ear. A symptom of certain diseases of the ear; as of catarrhal inflammation, polypus, sebaceous tumour in meatus, granulations on the surface of the membrana tympani, &c. Occurs very frequently, without any appreciable cause. in young children about the time of dentition; or on the subsidence of any of the exanthemata, especially in strumous subjects. In adults it occasionally seems to be due to a depressed condition of system. The secretion is generally offensive and irritating; when it has existed for any length of time, it is often tinged with blood.

SYMPTOMS. Commonly the discharge ceases in a short period. Occasionally it becomes chronic, and when this happens it may continue for years. In purulent catarrh there may be in the course of time destruction of the membrana tympani and ossicula auditûs, and caries of the bony walls of the meatus and tympanum. The disease may even extend to the cells of the mastoid process of the temporal bone; or in the opposite direction to the surface of the petrous portion of the same bone, until the brain and its membranes become involved in the unhealthy action. This event indicated by rigors, fever, and marked cerebral symptoms: ultimately convulsions, coma, and death. Inflammation and abscess of the brain may be induced by extension of disease to the cerebral sinuses and veins as well as to the dura mater. Cases of phlebitis, with pleurisy and pneumonia, have also resulted from caries of the mastoid cells.

TREATMENT. Syringing gently with warm soap and water; then careful examination of meatus auditorius externus with ear speculum. If no cause (as polypus, &c.) be found, attention to general health. Nourishing diet,—animal food, milk, &c. Constitutional treatment,—cod liver oil and tonics. Quinine and steel, 380. Steel and pepsine, 394. Phosphate of iron, 405. Mineral acids and bark, 376. Iodide of iron, 32, 382. Iodide of potassium and guaiacum or sarsaparilla, 31. *Locally:*—Frequent syringing with warm water. Warm injections of alum, zinc, or lead of same strength as collyria, 291, four times a day. Painting walls of canal with solution of nitrate of silver—gr. 6 to fl. oz. j. Ointment of carbolic acid—gr. 10 to vaseline oz. 1.

OVARIAN DISPLACEMENTS.—One or both ovaries are occasionally forced out of position by some uterine or other tumour;

or an ovary may descend into the retro-uterine pouch of peritoneum or escape from pelvis, forming a true hernia of this gland. Displacements of first class, usually aggravate the symptoms of the disease causing them: suffering often ceases, if tumour increase in size and pass upwards out of pelvic cavity. Those of second class may be congenital, or may happen accidentally after puberty. Occasionally, the ovary forms the contents of an inguinal, crural, or umbilical hernia.

OVARIAN TUMOUR.—From *Ovarium* (᾿Ωάριον, a small egg, dimin. of ὠόν), the ovary: *Tumor* (*Tumeo*, to be swollen), a tumour, Synon. *Ovarian Dropsy; Cystic Disease of Ovary.*—Consists of a conversion of the ovary, or of parts of it, into cysts. Three varieties of cysts:—Simple or unilocular; compound, multilocular, or proliferous; and dermoid cysts, the lining membrane of which has the power of producing hair, teeth, sebaceous matter, &c.

SYMPTOMS. Very slight in early stage: disease generally escapes detection until abdomen begins to be enlarged. In exceptional cases, tumour while in pelvic cavity causes irritation of rectum and bladder: sense of weight and oppression: pain and numbness down thigh of affected side. Backache. Menstruation usually regular, often scanty, perhaps abundant. If pedicle should twist violent attacks of sickness and vomiting supervene. If cyst ruptures, swelling suddenly disappears, usually with pain.

In more advanced stage, great pain and tenderness: distension of abdomen. Disordered menstruation, perhaps suppression. Loss of flesh. Constipation. Indigestion. Frequent micturition: urine often scanty. Loss of appetite. Restless nights. Dyspnœa. Diminution of strength. Abdomen found enlarged: fluctuation, varying in distinctness according to number of cysts, their distension, and capacity. Dulness on percussion, not varying greatly with position of patient. Tumour may cause ascites. Œdema of thighs and legs.—At length suffering rapidly augmented. Patient's movements impeded from bulk of tumour. Miserable nights: attacks of dyspnœa necessitate sitting up in chair. Considerable œdema. Sometimes, suppression of urine and uræmic poisoning. Fatal prostration.

TREATMENT. Abdominal section,—ovariotomy has now superseded all other treatment.

Drugs to produce absorption of multilocular tumours, worse than useless. Application of blisters, tapping, &c., to be avoided.

OZÆNA.—From "Οζη, a stench. *Fœtid Discharge from the Nostrils.* Is usually caused by atrophic nasal catarrh; syphilitic taint; abscess of septum; chronic ulceration; disease of antrum or frontal sinus; polypi; necrosed bone; rhinoliths or foreign bodies in nasal cavities.

SYMPTOMS. Appearance, perhaps, of common cold. Uneasiness and "stuffiness" of nose. Swelling of pituitary membrane. Headache. Profuse, fœtid, muco-purulent discharge; sometimes tinged with blood. Formation of flakes of fibrin or hardened mucus; which, if allowed to remain in nose, decompose, and give out a most disgusting odour. Septum of nose often eaten through, leaving a small round hole. Caries or necrosis of spongy bones, especially in syphilitic cases. In atrophic nasal catarrh the nasal fossæ appear abnormally wide owing to shrinking of the mucus membrane—no ulceration or caries, but the fœtor is intense.

TREATMENT. *General remedies:*—Quinine and iron, 380. Nitro-hydrochloric acid, 378. Arsenic and bark, &c., 52. Steel with arsenic, 381, 399. Cod liver oil. Chlorate of potash and steel, 402. Iodide of iron and cod liver oil, 390. When syphilitic, iodide of potassium, 31. Corrosive sublimate, 27. Red iodide of mercury, 54, 55. Green iodide of mercury, 53. Mercurial vapour baths, 131. Sea air. Nourishing food. Warm clothing.

Locally:—Remove carious bone, polypi, or foreign bodies. Nasal douche with weak solution of iodine with carbolic acid and glycerine, or carbolic acid, or tannic acid, or frequent and thorough syringing with warm water. Injections of alum; or lime; or permanganate of potash, 78; or sanitas. Inhalation of steam, or application of spray medicated with iodine, 259; or creasote, 260; or turpentine, 260. Iodine vapour, 259. Nitrate of mercury ointment, 305. Iodide of lead ointment, 293. Pulverised medicated fluids, 262. Snuffs of chlorate of potash gr. 30 and sugar oz. $\frac{1}{2}$; or of red oxide of mercury gr. 5 and sugar oz. $\frac{1}{2}$; or of white bismuth. In atrophic catarrh disinfect nasal fossæ with boracic lotions, stimulate mucous membrane by insufflation of sanguinaria. Cubebs internally (Walsham).

PANCREATIC DISEASE.—Disease of pancreas (from Πᾶς, all; κρέας, flesh) of comparatively rare occurrence. When affected, it is mostly impossible to diagnose exact nature of morbid state. Diseases which may occur are:—Congestion, hypertrophy, inflammation, suppuration, induration, serous softening. Atrophy; fatty degeneration. Simple cystic tumours; hydatid tumours. Scirrhous or medullary cancer. Calculous concretions, composed of carbonate and phosphate of lime cemented by animal matter, are not uncommonly found in pancreatic duct or its branches; of a white colour, varying from size of a pea to that of a walnut, and existing singly or to the number of fifteen or twenty.

SYMPTOMS. Most pancreatic disorders attended by enlargement and tenderness of gland. Epigastric tenderness; fulness or hardness; sense of heat and constriction. Nausea and vomiting; salivation; loss of appetite; inodorous eructations. Fatty stools. Mental depression. Debility, with emaciation. If common choledic duct be pressed upon by pancreatic tumour, or if it be involved in structural disease of gland, there will be persistent jaundice.

TREATMENT. Alleviation of prominent symptoms. Pancreatine. Liquor pancreaticus (Benger). Pancreatic emulsion. In obstinate sickness,—nutrient enemata. Zyminised suppositories. Ice.

PARALYSIS.—From Παραλύω, to relax—to affect with paralysis. Synon. *Paresis; Palsy.*—A total or partial loss of sensibility or motion, or of both, in one or more parts of body. Sometimes said to be,—(1) *Perfect* when both motion and sensibility are effected. (2) *Imperfect*, when only one or the other is lost or diminished. Divided into *acinesia* ('A, priv.; κίνησις, motion), paralysis of motion; and *anæsthesia* ('A, priv.; αἰσθάνομαι, to feel), paralysis of sensibility. Term *local* palsy used, when only a small portion of body is affected; as face, a limb, one foot. In *reflex* paralysis (*Reflecto*, to turn back) the irritation extends from periphery to centre, and thence reflected to affected muscles; diseases of urinary organs, uterus, and intestines most common causes of this form. A peculiar disease known as *wasting* palsy, prominent symptom of which is a degeneration and wasting of the muscles.

Palsy may be due to disease of brain arising from apoplexy, embolism, or thrombosis, abscess, softening, induration, tubercular, cancerous, or syphilitic tumours, renal disease, epilepsy, chorea; to disease of spinal cord, as inflammation, atrophy, solution of continuity, &c.; to diseases of investing parts of brain or cord, acting by pressure; to lesion or compression of a nerve by which its conducting power is impaired; to some affection of the muscle itself; to hysteria, or to rheumatism; and to influence of such poisons as lead, mercury, &c.

1. **General Paralysis.**—Complete loss of sensation and motion of whole system cannot take place without immediate death. Term "general paralysis" usually applied to a peculiar form of insanity: see *Insanity*. Sometimes to palsy affecting the four extremities.

A case has been related in which power of motion in every part of body was lost, save in muscular apparatus of tongue, and of organs of deglutition and respiration. Sensibility also wholly destroyed except in a small patch on right cheek, by tracing letters on which the patient could be communicated with.

2. **Hemiplegia.**—From Ἥμισυς, half; πλήσσω, to strike.—Paralysis of one side, involving upper and lower extremity, and same side of face and tongue. Most common form of palsy. Usually spoken of as "a paralytic stroke." Left more frequently affected than right side. Arm generally more completely paralysed than leg. Occasionally limbs of one side and opposite third nerve or opposite side of face, or of tongue affected: forms of transverse or crossed palsy.

CAUSES. 1. Hæmorrhage mostly from small arteries to corpus striatum or thalamus, sometimes from other vessels, or from aneurism. 2. Embolism of cerebral arteries by fibrinous

ug from heart, or aorta, or pulmonary vein. 3. Thrombosis of
teries and veins. 4. Tumour, abscess, syphilitic gumma ob-
ructing vessels, &c.

SYMPTOMS. May come on suddenly with apoplectic seizure,
without loss of consciousness, or with convulsion (rare), or
radually, with or without headache and vomiting. Face only
artially paralysed. Muscles of eyelid and of brow very little
fected ; palsied cheek drops loosely, while mouth is drawn
wards sound side by non-counteraction of paralysed muscles
ut much less than in facial paralysis of Bell, due to lesion of
ortio dura, in which also the eye is staring open). Tongue im-
icated ; when protruded, point turned to paralysed side, owing
vigorous action of healthy muscles pushing sound half further
t than the other. Articulation imperfect. Third nerve not
volved in the common form of hemiplegia, no squinting, but
mporary lateral deviation of both eyes, and persistent turning
head towards the sound side frequent in severe cases—con-
gate deviation of head and eyes. Arm more completely
ralysed than leg, as a rule, and recovers more slowly. Para-
sed limbs usually flaccid at first, sometimes rigid. Thoracic
d abdominal muscles not obviously affected. Sensation may
perfect or impaired, or almost lost. Mental faculties fre-
uently damaged. Tendency to shed tears. Forgetfulness and
isplacement of words. In hopeless cases, limbs waste :
uscles become rigid and are atrophied, owing to descending
lerosis in cord and diminution of nutrition. In favourable
stances, symptoms of amendment first observed in leg. Where
e arm regains power before the leg, prognosis unfavourable.
rousseau.)

TREATMENT. Indiscriminate depletion or active treatment
o soon may be injurious. Cathartics sometimes useful at first :
Scammony and jalap ; calomel ; croton oil ; stimulating purga-
ve enemata. Efficacy doubtful of blisters to scalp or nucha, or
setons.

When collateral symptoms point to embolism, or thrombosis,
softening from defective nutrition, wine and nourishment to
given ; cod liver oil ; ammonia and bark ; ammonio-citrate of
on : hypophosphite of soda or lime.—When the hemiplegia
used by cerebral hæmorrhage there may be symptoms of in-
mmation round the clot. In such, mild purgatives ; blisters ;
lphur baths. When the cause is syphilis, iodide of potassium.
In reflex hemiplegia, removal of the cause.

In chronic forms :—Small doses of strychnine, where there is no
tive disease of brain. Mild ferruginous tonics : phosphate of
on ; ammonio-citrate of iron. Cod liver oil. Animal food :
ilk. Frictions of limbs and spine with flesh-brush ; liniments
turpentine, cantharides, ammonia, &c. Electricity and gal-
nism, when paralysis remains without muscular rigidity.—See
lectro-therapeutics.

3. **Paraplegia.**—From Παραπληξία, partial paralysis,—παρα-

πλήσσω, to strike badly. Palsy of the lower half of body. The amount of the trunk paralyzed depends on the seat of lesion in the spinal cord. If high up all the limbs will be affected. Two varieties: (1) That due to disease of spinal cord or membranes, often secondary to disease of the vertebræ. Spinal meningitis, myelitis, congestion, softening, hæmorrhage, tumour, syphilitic disease, &c. (2) Reflex paraplegia, that caused by excitation which has reached the cord from a sensitive nerve. There is probably an insufficient amount of blood in cord. Hysterical paraplegia which is not uncommon may perhaps be included under this head.

SYMPTOMS. Usually begin slowly and insidiously. Weakness and numbness and tingling of feet and legs. Weakness increases, until there is complete loss of motion, and sometimes of sensibility also, in lower extremities. Paralysis of bladder and sphincter ani. Decomposition of urine in bladder. Involuntary movements and spasms of legs often very distressing. Reflex movements excited more easily in paraplegia than hemiplegia. Marked deterioration of general health.

Special Symptoms.—In spinal meningitis, severe pains in limbs and back, especially on movement, sometimes simulating rheumatism; reflex movements sometimes exaggerated; paralysis of sphincters late.

In myelitis, dull pain. Sensation of cord round body; paraplegia more pronounced and sensibility often lost; reflex action in parts below segment attacked, often exaggerated; sphincters early affected.

In congestion symptoms less definite; often worse after night's rest, from increase of congestion by recumbent posture. *Acute ascending paraplegia*, a rapidly fatal congestion sometimes seen, characterized by paralysis, advancing from below upwards till respiratory muscles involved.

In spinal hæmorrhage, sudden paraplegia with pain.

Syphilitic disease of cord a common cause of paraplegia, to be recognised chiefly by concomitant symptoms and history.

In malignant disease, which usually begins in the vertebræ or membranes, the paraplegia is preceded and accompanied by severe pain radiating along the nerves given off from the affected part and by trophic changes. (Painful paraplegia.)

Inflammation of the dura mater, most frequent in the cervical region (cervical pachymeningitis) is also attended by pain which precedes the paralysis.

In alcoholic paraplegia—most common in women—no pain; limbs remarkably soft and flaccid.

TREATMENT. An important distinction to be drawn between cases where there is congestion or inflammation of spinal cord or membranes, and the opposite condition.

(1) Where amount of blood is increased, as in chronic local myelitis, there are symptoms of irritation of motor nerve-nuclei, —as convulsions, cramps, twitchings, priapism; with indications

irritation of sensitive nerve-nuclei,—as itching, pricking pains, onormal sensations of cold or heat, &c. : and also symptoms of ritation of vaso-motor or nutritive nerve-fibres,—as wasting of uscles, bed-sores, alkaline urine, &c. Pain corresponding to pper limit of inflammation. Tenderness on pressure. Applica- on of a hot sponge causes sense of heat in all parts above flammation, with burnining sensation at upper limit. Appli- ation of a piece of ice over vertebræ gives rise to sense of cold erywhere except at level of inflammation, where feeling of eat is experienced. In treating these cases, quantity of blood nt to cord is to be diminished. Ergot of rye, in five- or six- rain doses, twice daily. Belladonna. Belladonna plaster over pine. Iodide of potassium, in conjunction with belladonna. o which list may be added mercury, and locally the actual utery. Cod liver oil. Henbane, conium, or Indian hemp to lieve restlessness. Avoidance of opium, as it causes congestion cord. Nutritious diet: wine or beer, milk. Nutrition of mbs to be maintained by shampooing, stimulating liniments: a subsequent period by very gentle galvanic current. (Brown- équard.)

(2) In paraplegia due to diminished nutrition of cord, as that used by white softening and reflex palsy, food and remedies eeded to improve quality of blood, and cause an increased antity to be sent to cord. Strychnine, gr. $\frac{1}{20}$ daily. Opium. uinine and iron. Nitrate of silver and hypophosphite of soda, 9, deserving of trial. Cod liver oil. Sulphur baths. Very ourishing food. Patient to lie on his back, with head and oulders and lower extremities raised, so that blood may avitate to cord. (Brown-Séquard.)

In syphilitic paraplegia, iodide of potassium in large doses, nd in some cases mercury.

A controlling power can be exercised by means of heat and old applied to different parts of back, over the circulation in rain and spinal cord and ganglia of sympathetic, and through gency of these nervous centres in every other organ. In this ay, reflex excitability, or excito-motor power of cord, and con- actile force of arteries in all parts of body can be modified. To ssen the excito-motor power, ice is applied in an india-rubber ag about two inches wide, over that part of spine on which it wished to act. On same principle, vitality of cord increased using hot water and ice alternately, each in an india-rubber ag if energetic action be required: where less vigorous efforts e called for, ice or iced water only employed, resorting to pplication several times a day, for a short time on each occasion, ith long intervals between. (John Chapman.)

In reflex paralysis, while relieving loss of power on preceding inciples, the external cause must be removed. Thus, the actitioner should expel intestinal worms; lance gums; relieve ritability of urinary and sexual systems; cure skin diseases, &c.

Hemi-paraplegia.—Due to a lesion affecting one lateral half of the cord only; may be due to injury or tumour, rarely to inflammation or hæmorrhage. The characteristic feature of it is that motor power is lost below the segment of the cord affected on the same side as the lesion, sensation on the other side.

4. **Local Paralysis.**—Many varieties of local palsy. Only necessary to mention one,—*Facial paralysis of Bell.* Results from pressure on, or lesion of *portio dura* of seventh nerve, which may be at the nucleus or root of the nerve, or in its intra-cranial or petrosal portion, or after its exit from the stylo-mastoid foramen, or at the peripheral extremity. Exposure to cold and debility, most frequent causes of facial palsy. May also be due to irritation of decayed teeth. Otitis leading to caries of petrous portion of temporal bone may produce it, especially in children, or it may be caused by tumour or other disease in or near the pons. It will last from a few days to several weeks. Usually free from danger.

SYMPTOMS. Appearance remarkable, extreme distortion of features on talking or laughing. Features on affected side blank, unmeaning, void of all expression. Orbicularis palpebrarum muscle powerless, so that eye staring open, and not closed either by effort or in reflex winking. Inability to frown or blow; nostril does not dilate; cheek hangs loose; angle of mouth droops; food lodges between cheek and gums. Fifth pair of nerves unaffected; so that muscles of mastication act properly. No loss of sensibility. —In facial hemiplegia due to cerebral hæmorrhage, embolism, &c., the symptoms are less marked, and an important diagnostic distinction is that the orbicularis oculi is not affected, so that the eye opens and closes naturally.

Paralysis of portio dura on both sides, a rare affection. When it occurs there is no distortion of features owing to symmetrical nature of disease. On close examination, however, nostrils are found motionless; cheeks flat and relaxed; inability to close eyes completely; defective articulation with regard to sounds formed by lips but unimpaired lingual articulation.

Other Common Local Paralyses.—Paralysis of ocular muscles. Of muscles supplied by 3rd nerve.—Ptosis; immobility of eyeball, outward squint, dilatation of pupil, double vision. Of external rectus supplied by 6th nerve—inward squint. Of superior oblique supplied by 4th nerve—double vision and giddiness without obvious squint, the two images obliquely placed and receding as patient looks down.

Paralysis of 5th, loss of sensation over side of face and head; paralysis of masseter and pterygoids.

These common in syphilitic disease at base of brain.

Paralysis of supinators and extensors of forearm and hand, sometimes by pressure on musculo-spiral nerve, as by falling asleep with arm over back of chair.

TREATMENT. Remove cause if it can be ascertained. Mild antacid aperients. Iodide of potassium. Bromide of potassium.

Nourishing food. Warm bathing. Friction with shampooing. Galvanism.

5. **Locomotor Ataxy.**—From 'A, neg.; τάσσω, to order. Synon. *Progressive Locomotor Ataxy; Tabes Dorsalis; Sclerosis of posterior Columns of Spinal Cord.*—A peculiar form of imperfect paraplegia ometimes attributed to sexual excesses, exposure to cold and damp, rheumatism, gout, &c., but in a large proportion of cases a remote effect of syphilis. Most common in males about middle period of life. In well-marked cases it has been shown that atrophy of nerve-fibres of posterior columns of spinal cord has taken place, with formatiou of amyloid corpuscles and hypertrophy of connective tissue These changes included under term sclerosis. Lesion not always confined to posterior columus of cord. Often also a certain grey degeneration of cerebral nerves, of spinal nerves, and various lesions of grey substance and cord. (Lockhart Clarke.)

Symptoms. The pathognomonic symptoms are lightning pains. Loss of knee reflex, insensibility of pupils to light, together with the characteristic diminution or total absence of power of co-ordinating movements, so that patient has difficulty in walking, loses his balance, and has a peculiar gait. Can move limbs and has considerable power in them when lying down. Distinct from ordinary paraplegia, in which there is impairment or loss of voluntary motion.

Early Symptoms.—Severe stabbing or darting pains in legs—"lightning pains," coming in paroxysms, also "boring pains." Squinting; double visiou, impairment of sight; pupils usually small, immobile when light varied, but contracting for near vision ("Argyll Robertson" phenomenon). Occasionally partial paralysis of other cranial nerves besides ocular.

Mode of walking peculiar, feet lifted up and thrown out in an irregular and extravagant manner, and brought down violently; turning round is difficult. Patient has to watch his legs in order to guide their motions; cannot stand when eyes shut, or in the dark, still less walk; does not know where lower limbs are; when upper extremities affected, cannot put finger on tip of nose; patellar tendon reflex, or knee phenomenon lost.

Intellect and memory unaffected. Rarely deafness. A sensation as of strings tied round abdomen now and then complained of. No tenderness on examination of spine. "Pins and needles," with numbness in lower extremities; in some cases violent cramps or neuralgic pains; in others severe paroxysms of vomiting and abdominal pain ("*crises gastriques*" of Charcot). Ultimately loss of sensation in lower limbs; sometimes complete amaurosis from atrophy of optic nerve; increasing weakness, so that patient cannot leave his bed. Occasionally effusion into joints, which may even produce dislocation, this most frequent when gastric crises occur. Bones become liable to break spontaneously. Progress of disease slow: recovery very rare. Occasionally death occurs from intercurrent affections, as bronchitis, pneumonia, erysipelas, &c.

TREATMENT. Nutritious diet. Cod liver oil. Tonics. If any history of syphilis,—Iodide of potassium and perchloride of mercury. Ergot. Nitrate of silver. Phosphorus. Strychnine. Arsenic. Extract or tincture of Calabar bean. Electricity. Counter-irritation to spine. Suspension by means of Sayre's apparatus (Charcot). To relieve "lightning pains," morphine, cannabis Indica, bromide of potassium. Salicylate of soda, constant current. Bismuth, pepsine or morphine for *gastric crises.*

Bulbar Paralysis. *Labio-glosso-laryngeal paralysis* due to disease, usually sclerosis, in pons and medulla. The access is generally gradual, but sometimes sudden. When established there is complete paralysis of the lips, tongue, and larynx, causing absolute loss not only of speech but of voice, dribbling of saliva, and difficulty of deglutition. Sometimes there is much pain, and partial paralysis of the limbs may come on.

Sclerosis of Lateral Columns of Cord.—Synon. *Spastic Paraplegia.* Excessive formation of connective tissue with wasting and disintegration of nerve fibres of lateral columns, invading also anterior cornua of grey matter; may be primary and bilateral or secondary, "descending" from a lesion in the motor region of the brain or in the cord, met with in strong and muscular adults.

SYMPTOMS. Gradual paralysis with rigidity of muscles and contraction of limbs. "Spastic" gait is characteristic. Patient walks with great effort, using two sticks. The chest is thrown forward, back arched, and the whole pelvis and legs are raised and moved forward, the toes dragging along the ground. Exaggerated reflexes. Ankle clonus. No loss of sensation. Sphincters not affected till late.

TREATMENT. As for locomotor ataxy.

Disseminated Sclerosis. (*Sclérose en plaques disséminées*).—Patches of sclerosis in different parts of brain and cord. Several types: Spinal. Cerebral. Cerebro-spinal. Last most common.

SYMPTOMS. Clinical history varies much according to type and stage of disease. Gradual loss of power, with tremor and agitation of muscles whenever they are called into action. Lips and tongue tremulous on speaking. Head shakes so that chin kept on breast to avoid effort of supporting head which brings on tremor. Limbs quiet till moved; then agitated; patient cannot carry glass of water to mouth, shaking increases as the movement approaches completion. To be distinguished from Chorea and Paralysis Agitans.

TREATMENT. As for *Ataxy* (which see).

6. Infantile Paralysis.—*Acute Anterior Polio-Myelitis. Essential Paralysis of Children.*—Occurs at or before the second teething, frequently in strong and healthy children. Access rapid; usually ushered in by pyrexia, and during, or after, this the paralysis observed. One or both lower extremities or the arm and leg may be affected. The affected parts are powerless, flaccid and cold; there may be hyperæsthesia at first, afterwards sensation not impaired. The paralysed muscles rapidly lose their sensibility to faradic electricity, but retain sensibility to galvanism much longer. As a rule some muscles recover while others do not, and thus deformity produced.

Treatment. At time of attack incise gums if necessary. Warm bath. Stimulating liniment to spine. Friction of limbs. Mild aperients. Ergotine. Later, the paralysed parts to be kept warm and to be rubbed daily. Galvanism to be employed early, and when susceptibility to faradic electricity restored, the induced currents. One pole on spine, the other in front on sternum or below umbilicus. Iodide of potassium gr. 2 to 10. The general health to bo maintained. Hypophosphites and cod liver oil. Nutritious diet. Mountain or sea air. Gymnastics. Massage.

7. Hysterical and Rheumatic Paralysis.—In *hysterical* palsy there is neither disease of nervous centres nor of motor nerves. Occurs in hysterical women: produced by fright, over-excitement, ovarian irritation, &c. Lower extremities may be affected (hysterical paraplegia); or arm and leg on same side (hysterical hemiplegia); or only one or two particular muscles. Muscles may be flaccid, more commonly contracted and rigid; feet often bent inwards. Generally, other symptoms of hysteria present. May be cured by remedies which improve general health. Ferruginous tonics. Anti-spasmodics. Galvanism. Uterine disease to be treated.

In *rheumatic* palsy muscles of lower extemities often attacked: or extensor muscles of fore-arm, or deltoid and trapezius, rendering it difficult to raise arm. May come on suddenly or gradually. To be cured by galvanism, shampooing, iodide of potassium, cod liver oil.

8. Progressive Muscular Atrophy.—From 'A, priv.; τρέφω, to nourish. Synon. *Chronic Anterior Polio-Myelitis; Wasting Palsy; Creeping Palsy; Cruveilhier's Paralysis.*—Paralysis with granular and fatty degeneration and extreme wasting of muscular fibre, owing to some error of nutrition. Patches of granular degeneration found in those parts of anterior grey cornua of spinal cord whence nerves pass off to affected muscles. Also amyloid corpuscles round central canal of cord. Nerve-cells shrunken and atrophied. It has been questioned whether spinal cord sion is primary or secondary. The former rendered more probable than was formerly believed, by researches of Lockhart larke.

Symptoms. The pathognomonic feature is a degeneration, nd consequent loss of volume and power, of voluntary muscles; without diminution of intelligence or sensibility. Fibrillar witchings seen in affected muscles, which retain faradic irribility so long as any fibres remain. May affect upper or lower mbs, or voluntary muscles of whole body; usually symmetrical.

Scapular muscles, deltoid, muscles of thenar eminence often affected early. The muscles attacked waste away, and almost entirely disappear, leaving bony prominences bare. With the wasting comes weakness.

Fibrillary tremors, or convulsive quiverings of some of the fasciculi which form the muscle, produced by irritation of skin; patient unconscious of their occurrence. Occasionally, neuralgic or rheumatic pains. Great sensitiveness to cold. Intellectual powers undisturbed. General health moderately good.—As disease progresses, total deprivation of motion in affected limbs, of which only skin and bone left. Patient often has to be fed and carried about like a child. Power of deglutition and articulation may be lost. Fatal asphyxia a common termination,—for, as a consequence of catarrh, bronchitis, &c., mucus accumulates in air-tubes: owing to diaphragm and intercostal muscles being involved, no efforts at expectoration can be made. Occasionally, apnœa from paralysis of respiratory muscles.

Duration of disease varies from a few months to some years. Complete recovery rare: progress of disease sometimes suspended, especially when muscles of trunk are not involved. General muscular atrophy spares neither children, adults, nor aged people: partial form most common between thirtieth and fiftieth year. Males suffer more than females. Exposure to wet and cold, or hard work, often assigned as causes. May follow fever, sunstroke, falls and blows, &c. It is hereditary.

TREATMENT. Improvement of general health; nutritious diet; gentle exercise.—*Tonics:* Strychnine, iron, arsenic, nitrate of silver. If history of syphilis, iodide of potassium, warm or sulphur baths, friction, shampooing, electricity, continuous or interrupted currents. If pain severe, hypodermic injections of morphine.

9. **Pseudo-hypertrophic Paralysis** (*of Duchenne*).—A disease of early childhood mostly affecting males. Markedly hereditary. The child weak on his legs, constantly falling, and getting up with difficulty; walk slow, clumsy, and waddling. Great arching of loins. Characteristic feature is great size of calves of legs, and of buttocks, but when muscles examined under microscope the increase of bulk found to be due to connective tissue, the muscular fibres being wasted. No treatment effectual. Death usually occurs before the age of eighteen from pulmonary affection. Arsenic, phosphorus, electricity, shampooing, may be recommended.

10. **Mercurial Palsy.**—Synon. *Mercurial Tremor.*—A convulsive agitation of voluntary muscles, increased when volition is brought to bear upon them. In advanced stages, articulation and mastication and locomotion performed with difficulty. Sometimes delirium, or even acute mania. Use of hands almost entirely lost. Epilepsy. Great weakness. Restlessness at nights. Skin acquires a dirty brown hue. Soreness of gums. Teeth turn

black, decay. The sufferers are workmen exposed to fumes of mercury,—gilders of buttons, glass-platers, barometer makers, &c.

TREATMENT. Withdrawal entirely from injurious atmosphere. Sulphur. Iodide of potassium, 31. Nourishing food. Cod liver oil. Warm baths. Sulphur baths, 125. Galvanism. Sea air. Purgatives. Diaphoretics. Diuretics. Tonics, particularly quinine, iron, nitrate of silver, opium, galvanism.

11. **Lead Palsy.**—Synon. *Paralysis Saturnina; Drop Wrist; Metallic Palsy; Painter's Palsy.*—Often follows or accompanies lead colic, though it may exist independently. Operatives in lead-works and mines suffer much from saturnine emanations. Work-rooms where manufacture of white lead is completed have their atmosphere loaded with minute particles of lead compounds; so that workers in them get "leaded,"—become victims of paralysis, colic, gout, sleeplessness, neuralgia, spasms of respiratory muscles, debility and pallor and emaciation, &c. Plumbers, painters, colour-grinders, typefounders, &c., also suffer much.

SYMPTOMS. Poison of lead exerts a peculiar noxious influence over nerves of fore-arm and hand; in consequence of which, extensor muscles of hands and fingers get paralysed, and hands hang down by their own weight when arms are stretched out,—the *wrists drop.* Inferior extremities rarely affected. Frequent attacks of lead colic. Saturnine taste and odour in breath. Formation of a blue or purplish line round edges of gums, just where they join the teeth, a characteristic feature.—Death may occur when system has long been exposed to influence of lead; especially if health be also injured by intemperance, or by frequent attacks of gout.

TREATMENT. *Curative:* Iodide of potassium, 31. Sulphate of magnesia. Galvanism. Frictions. Sulphur baths, 125. Support of hand by splint.—*Prophylactic:*—All workers in lead should drink sulphuric acid lemonade daily. To avoid intoxicating drinks. Functions of skin to be promoted by cleanliness, especially washing hands before meals.

12. **Paralysis Agitans.**—Synon. *Shaking Palsy.*—Characterised by an involuntary tremulous agitation of muscles which is independent of exertion, and goes on during repose of muscles, commencing in hands and arms, and gradually extending over whole body. Finger and thumb generally in contact as if holding a pen, or as if taking pinch of snuff, or rolling a pill. Associated with great restlessness and sense of heat. Face gets remarkable fixed expression of melancholy. Diminished muscular power, or limbs in state of spasm. Senses and intellect uninjured. Disease progresses slowly. When far advanced, agitation may be so violent as to prevent sleep. Deglutition and mastication performed with difficulty. A propensity to bend the trunk forwards, and to pass from a walking to a gentle running pace. Inclination of

body forwards, with bending of chin or sternum. Involuntary escape of fæces and urine. Slight delirium and fatal coma.

TREATMENT. Few remedies of much use. The effects may be tried of pure air, nourishing food, baths, ferruginous tonics, cod-liver oil, and occasional opiates. Benefit may sometimes be obtained from employment of continuous galvanic current, or perhaps from a Pulvermacher's chain-battery of 120 links.

PARAMETRITIS.—Synon. *Pelvic Cellulitis; Peri-uterine Cellulitis; Peri-uterine Phlegmon.*—Inflammation of the connective tissue which abounds in the neighbourhood of the uterus. Free exudation takes place, forming a mass (phlegmon) which is hard, owing to the resistance of neighbouring fasciæ. Suppuration may occur. The exudation may involve the connective tissue between the parietal peritoneum and the abdominal muscles in the hypogastrium and groins, or may track down the thigh. Sometimes an atrophic process goes on in the deposit (parametritis atrophicans), displacing the uterus, which becomes fixed. Parametritis may be very acute, or may pursue a chronic course.

CAUSE. In most cases parturition or abortion, also local injuries, mismanaged operative and therapeutic procedures on the cervix and uterine cavity.

SYMPTOMS. Chilliness, rigors, rise of temperature, pelvic pain, dysuria, often uterine hæmorrhage. On digital exploration vagina feels hot, and a very tender place can be felt, to one side of or round the cervix. Soon a hard, tender, uncircumscribed, and quite immovable deposit forms. It is continuous between the pelvic wall and the cervix, sometimes bilateral. This deposit or "phlegmon," is the same as the hard tissue around a boil, and cannot be distinguished as a well-defined mass on bimanual palpation as in perimetritis (which see). In a few days, in favourable cases, well managed, the fever and pain abate and the deposit can no more be felt, the uterus previously fixed becoming movable. In bad cases the deposit extends to the groins and may be felt as a kind of cuirass under the skin, even as high as the umbilicus, but more usually, when the course of the disease is unfavourable, pelvic abscess forms.—See *Pelvic Abscess.*

TREATMENT. Perfect rest, poultices to the hypogastrium, careful cleansing of the vagina by injection of antiseptic lotions, mild saline purgatives. In neglected cases, not only may abscess form, but the bladder may become permanently irritable owing to adhesions to other parts, or the deposit may press on a ureter, causing dilatation of the kidney (hydronephrosis, pyonephrosis), or more commonly it may press on the nerves in the pelvis, causing neuralgia, "uterine lameness," &c. Rest alone can check the course of these very troublesome cases. Tonics. Sea air. Hot water douches. Iodide of lead and belladonna pessaries are useful.

PARAPHIMOSIS.—From Παρὰ, beyond; φιμόω, to bind tight; that condition in which a tight prepuce having been drawn back over the glans penis, the latter becomes constricted and swollen, so that the prepuce cannot be replaced.

SYMPTOMS. Great swelling of connective tissue behind constriction. Mucous membrane of withdrawn prepuce forms a thick and brawny girdle. Congestion of glans penis. Pain, inflammation, if neglected, ulceration, anxiety, &c.

TREATMENT. *Reduction*:—Wrap a cold rag round the glans, and leave it there for a few minutes. Then oil the parts well. Hold the glans between the interlocked fore and middle fingers of both hands. Press on the glans with both thumbs, at the same time drawing the prepuce downwards with the interlocked fingers. All failing, a notch or free division of tight preputial collar with probe-pointed bistoury. Dress with boracic lotion.

Permanent Cure:—To prevent a recurrence, circumcision may be advantageously practised.—See *Phimosis*.

PARAPLEGIA. From Παραπληξία, partial paralysis; παραπλήσσω, to strike badly. Paralysis confined to inferior half of body.—See *Paralysis*.

PARASITIC ANIMALS AND PLANTS. From Παρασιτέω, to flatter another and live at his expense.—See *Entozoa; Epizoa; Epiphytes*.

PARONYCHIA.—See *Onychia*.

PAROTITIS.—From Παρὰ, near; οὖς, the ear; terminal *-itis*. Synon. *Cynanche Parotidea*.—See *Mumps*. The parotid gland may also inflame in cases of carious molars, also after abdominal operations or injury to abdominal viscera.

PELLAGRA.—From *Pellis*, skin; *ægreo*, to be sick. Synon. *Mania Pellagria; Mal de Sole; Elephantiasis Italica; Scurvy of the Alps*.—Common in Lombardo-Venetian country. A severe constitutional or blood disease attended with an altered state of skin. The eruption merely symptomatic of the vitiated state of system.—Cause not clearly made out. Mostly ascribed to peasants living chiefly on maize,—nine-tenths of their food consisting of this substance made into polenta with coarse bread, &c., but may occur when this grain is not eaten. Probably disease due to insufficient nourishment, the use of dry farinaceous food without sufficient fatty matter and exposure to the sun's rays.

Usually ends in mania, imbecility, and slow death. Softening of periphery of brain has been often met with in autopsies: softening of part of spinal cord almost always.

SYMPTOMS. Disease begins insidiously at commencement of warm spring weather, with a shining red spot, followed by tubercles, on back of hand or some part of body. At end of summer, eruption generally disappears; suspended till following spring, when it reappears. This first stage may go on thus for seven or eight years.—The second stage is characterised by the disease setting in with greater constitutional disturbance, general debility, disturbance of nervous system (despondency, cramp, spasm, convulsions): patient then becomes a prey to melancholy of a religious character with suicidal tendency. At end of autumn there is a remission, but less marked than before. Year by year, symptoms aggravated. Skin all over body gets dry, rough, and shrivelled: great debility: diarrhœa: breath and sweat most offensive: great flow of saliva. Pain in head, vertigo, delirium; dyspnœa; cramps; bilious vomiting; low fever; dropsy; epilepsy; and surviving these, mania or fatuity. Disease may not prove fatal for 5, 10, or even 15 years. Its popular name—*malattia di miseria*—sufficiently justified.

TREATMENT. *In early stage:*—Removal to healthy locality. Protection from the sun. Good nourishing food, with milk, fatty matters, &c.—*When fairly established:*—All treatment useless beyond attempts at relieving the most prominent symptoms.

PELVIC ABSCESS.—Usually the result of severe neglected parametritis (which see), hence most frequently follows labour or abortion. Rigors occur, the temperature rises, more than at the beginning of the attack of parametritis, and the hard deposit in the pelvis softens. The abscess may dry up, or may break into the bladder or rectum, above the groin, below Poupart's ligament or elsewhere in the neighbourhood of the pelvis, or it may burst into the peritoneum. In purulent parametritis a localised collection of pus, limited above by adhesions, may fill Douglas's pouch. Lastly, an ovary or tube may suppurate. When parametritic abscesses burst through the integuments, they are apt to leave troublesome sinuses, and the discharge may wear out the patient. When they break into the bladder, they are often very chronic, discharging and refilling, and are always accompanied by rise of temperature as soon as the pus is re-collecting. Eventually, they generally get well.

TREATMENT. Rest, fomentations, opium and belladonna suppositories. Hot hip baths. Hot water vaginal douches 110°. The abscess must be opened if it points or can be reached and properly drained, and the cavity washed out daily with hot iodine or other antiseptic lotions. In some recent cases in otherwise healthy subjects simple aspiration answers well. Sinuses may require enlargement, sometimes the abscess is kept in an irritable condition by the entrance of air, fæces, or urine, and in these cases a counter opening should if possible be made to allow the free escape of the irritant. Some large chronic abscesses are best treated by abdominal section and drainage. Tonics and nutritious diet, &c., are necessary.

PELVIC HÆMATOCELE.—From *Pelvis*, a basin; Αἷμα, blood; κήλη, a swelling. This term is usually intended to signify an effusion of blood into the peritoneal pouch between uterus and rectum, or into the pelvic connective tissue (parametrium). Great diversity of opinion amongst authorities chiefly owing to disputed definition, thus some obstetricians hold that effusion of blood into the parametrium is a thrombus, not a hæmatocele. Others do not consider that free blood in the pelvic peritoneum not limited by adhesions can be termed " hæmatocele."

Causes.—The majority of well-marked cases probably due to rupture of an extra-uterine fœtal sac, rupture of a Graafian follicle, of an "apoplectic" ovary, of a distended Fallopian tube, or of engorged and varicose vessels in the broad ligament, also menstrual blood flowing backwards out of ostium of Fallopian tubes. Most of these forms occur in association with a menstrual period. Rupture of pelvic tumours. Parametric form usually associated with menstrual function.

SYMPTOMS. Vary according to amount of loss. If excessive,— Nervous shock. Exhaustion from internal hæmorrhage. Acute pain in lower part of abdomen. Chilliness or shivering: coldness of extremities. Vomiting. Increasing feebleness of circulation. Ghastly expression of countenance. Death may occur in a few hours.

Where loss is great but not excessive,—Violent abdominal pain. Sickness. Chilliness followed by fever. Anxiety of countenance: pinching and pallor of face. Difficult micturition, with frequent desire to empty bladder. Irritability of rectum. Perhaps sudden cessation of catamenia if flow be on at the time. Pelvic tumour; appreciable through abdominal and vaginal walls in the course of a few days. It is usually soft at first and becomes harder and smaller.

In a third class of cases, symptoms of same character but less acute than foregoing. Pelvic tumour: only appreciable by vaginal examination. Fear of peritonitis: of hæmorrhage returning after an interval. Absorption may be hoped for.

In all cases uterus fixed by coagulation of blood around it. Usually displaced forwards, and tumour felt bulging posterior wall of vagina.

TREATMENT. *In acute cases:*—Brandy. Wine. Opium in large doses. Sinapisms to extremities. Bladders of ice to lower part of abdomen and vulva.

Where loss is moderate:—Perfect repose in recumbent posture. Opium in sufficient doses to relieve pain and prevent faintness. Ergot by mouth or hypodermically. Gallic and aromatic sulphuric acids, 103. Alum and sulphuric acid, 115. Ice. Sinapisms to epigastrium. Cold applications to vulva. Catheterism. Puncture of prominent part of tumour with trocar or aspirator. Rest and care at two or three succeeding catamenial periods. Abdominal section always advisable in marked cases, especially when recurrent. Timely removal of an extra-uterine tubal sac or of a bleeding Fallopian tube (hæmatosalpinx) may save the patient.

PEMPHIGUS.—From Πέμφιξ, a bubble or blister. Synon. *Febris Bullosa; Bladdery Fever; Pemphigus vulgaris.*—A non-contagious skin disease. Characterised by large round or oval vesicles, or bullæ (*Bulla*, a bubble of water), two or three inches in diameter, which appear on one or more regions. Each bulb filled with alkaline serum; which soon loses its transparency, becoming acid and puriform. Slight fever, &c. Very liable to relapse.

Pompholyx (Πομφὸς, a blister) is merely a variety of pemphigus. *Pemphigus foliaceus.*—Rare and usually fatal. Bullæ burst and form flakes or crusts, which exude a fetid discharge and may cover the whole surface.

TREATMENT. Arsenic usually most effectual. Cod liver oil. Generous diet. Vesicle to be punctured: cuticle not to be removed, but bathed and kept clean by antiseptic lotions.

PENIS CANCER.—Malignant disease of the male organ is generally squamous-celled epithelioma. Commences as a warty or cauliflower-looking growth on inner surface of prepuce, or as a flat tubercle with indurated base on the glans or the furrows between the glans and the prepuce. Both varieties followed by unhealthy and very destructive ulceration. Lymphatics on dorsum of penis, and the glands in the groin, gradually get involved. Sanious discharges. Retention of urine. Cancerous cachexia. Painful death.—Most common cause, irritation by soot in chimney sweeps, but the disease may result from irritation of retained secretions of corona glandis in phimosis, where there is predisposition to cancer.—Early amputation very satisfactory. Recurrence may not occur for over ten years.

PERFORATION OF STOMACH.—May occur from simple or malignant ulceration, and may give rise to escape of contents into peritoneum, or when preceded by adhesions to abscess or fistulous communications with other viscera, &c. Must not be confounded with post-mortem perforation due to digestion of stomach by gastric juice.—See *Gastric Ulcer; Gastric Cancer; Gastro-Cutaneous Fistula; Gastro-Cholic Fistula.*

PERICARDITIS.—From Περὶ, about; καρδία, the heart; terminal *-itis*. Synon. *Exocarditis; Inflammation of the Pericardium.*—Inflammation of the external fibro-serous covering of heart. May be regarded as a local manifestation of constitutional disease. Occurs most frequently in connection with acute rheumatism, Bright's disease, pyæmia, and scurvy.

SYMPTOMS. Sometimes so slight that disease is not suspected. When there is only a slight exudation of fibrin, or when effused serum has been rapidly absorbed and adhesions early effected, there may be only slight pain and oppression. If effusion be copious (hydro-pericardium) so as to press on heart and embarrass its movements, or when there is co-existent myocarditis, symptoms much more decided. High fever, as ascertained by thermometer; pain in cardiac region, darting through to left scapula, upwards to left clavicle and shoulder, and down arm; tumultuous action of heart; irregularity of pulse; dyspnœa; inability to lie on either side, but especially left; anxiety of countenance; noises in ears, giddiness, epistaxis, &c. As disease advances,—Patient, unable to lie down, sits up in bed and leans forward supporting head on hand; extreme debility, cough, suffocative paroxysms, dysphagia, tendency to syncope, œdema of face and extremities. Great restlessness, delirium, distortion of features, tetanic spasms.

Physical signs:—(1) Sensations of friction communicated to hand, rare. (2) Friction-sounds; an alternate rubbing, or to-and-fro sound. (3) Friction-sounds attended with, or preceded by, valvular murmurs. (4) Extension of dulness over heart, and muffling of heart sounds, owing to serous effusion; apex beat displaced upwards, or not felt. (5) Signs of eccentric pressure analogous to those of empyema. (6) Signs of excitement of heart. (7) Signs of weakness or paralysis of heart.

TREATMENT. Perfect quiet in bed. Temperature of room 65° to 70° F. Neutral salts, if there be constipation, 141, 144, 150, 152. Morphia or opium in full doses. Opium and belladonna, 344. Bicarbonate of potash (gr. 30 every two or three hours). Bicarbonate of potash drink, 355. Cream of tartar drink, 356. Chlorate of potash drink, 360 Leeches. Poppy-head fomentations. Large linseed poultices. Belladonna and opium, over cardiac region, 297. Vapour baths.—Light diet,—Gruel, arrowroot, milk, mutton broth. As soon as strength fails,—Soup, essence of beef, raw eggs, wine.

When effusion is abundant:—Iodide of potassium, 31. Red iodide of mercury, 54. A succession of blisters. As a forlorn hope, tapping of pericardium. Mercury. If circulation failing, digitalis. Leeches useful in early stage.

PERICARDIUM, ADHESION OF. — Not easily diagnosed; often causes great hypertrophy; apex does not descend on deep inspiration, and sometimes fixed in an abnormal situation—in fourth space, or even higher; epigastrium does not move in respiration, sometimes drawn in with systole of heart; intercostal spaces over heart may be retracted either with systole or diastole.

TREATMENT. Avoid hurry or over-exertion; maintain strength and prevent anæmia; belladonna plaster when heart irritable.

PERIMETRITIS.—Synon. *Pelvic Peritonitis.*—Inflammation of the peritoneum in the immediate vicinity of the uterus, especially the broad ligaments. A perfectly distinct disease from parametritis (which see) though they are sometimes combined to a certain extent. Divided by Matthews Duncan into adhesive, purulent, and serous.

In *Adhesive Perimetritis* inflammatory exudation occurs. It organises into bands, which bind together adjacent serous surfaces, thus, uterus, omentum, ovaries, intestines, and Fallopian tubes may become more or less united by adhesions. The ostia of the tubes are often closed by the adhesions. This variety of perimetritis, sometimes very mild and localised, is extremely common.

The *Purulent* form is almost universally of tubercular or septic origin, and apt to be diffused, but if the pus be limited by adhesions, the suppurative process may be checked, and the disease remains as a rare variety of pelvic abscess.—See *Pelvic Abscess.*

In *Serous Perimetritis* serum is thrown out, and is usually limited by adhesions. Hence a fluctuating tumour is formed, which may be very difficult to distinguish from an ovarian or broad ligament cyst. This variety is rare.

CAUSES. Neglect after parturition or abortion, chills during menstrual period, inflammation of ovary, tube, or uterus, gonorrhœa, tubercle of pelvic organs, escape of any irritant or septic fluid from the ostium of the tube, or from cysts or abscesses into the peritoneum, local traumatic influences, irritation from local tumours.

SYMPTOMS. Commences more insidiously than Parametritis (which see). Seldom rigors, but usually a steady rise of temperature. Dull pains in iliac fossæ and hypogastrium. On digital exploration of vagina tenderness is not very great, but an attempt to move the uterus always gives pain. The movements of the uterus are impaired, or the organ may be fixed. To one or both sides of the cervix a mass can be felt, well-circumscribed, or at least fairly defined on bi-manual palpation and often movable. Sometimes the mass is very tender, especially if it includes the ovary. If the mass projects above hypogastrium it will usually be found to be resonant on percussion, as it consists of coils of intestine adherent to the ovary, tube, &c. Chronic cases very obstinate, tenderness, sometimes changing into severe pain. Much suffering from obstruction to passage of flatus and fæces. Differential diagnosis from oöphoritis and salpingitis often difficult.

TREATMENT. Rest. Fomentations. Saline purgatives given with caution in early stage. Chronic cases very obstinate. Rest needed whenever attacks of pain come on. Treat condition which is cause of the disease or may complicate it, such as sequelæ of labour, gonorrhœa, tubercle, pelvic tumours. Iodide of potassium and bark often useful. Abdominal section, breaking down of adhesions, and washing out of peritoneal cavity, has proved beneficial in tubercular cases.

PERINEPHRITIC ABSCESS.—From Περὶ, around ; νεφρὸς, the kidney.—Abscess of the areolar tissue surrounding the kidney. —See *Abscess of Abdominal Walls.*

PERIOSTITIS.—From *Periosteum* (Περὶ, round about ; ὀστεὸν, a bone) ; terminal *-itis.* — Inflammation of the periosteum may result from injury, syphilitic taint, rheumatism, abuse of mercury, and from atmospheric exposure acting upon broken down constitutions. Acute form may cause necrosis, especially in children.

SYMPTOMS. Pain, generally aggravated at night, is very acute if subjacent bone be involved. Tenderness. Thickening of inflamed part from deposit of plastic matter, forming a tense elongated swelling,—a *node*. Constitutional disturbance; varying from slight impairment of health, to acute inflammatory fever. Restless nights. Mental depression. Rigors indicate suppuration. In chronic forms, there is enlargement of bone.

TREATMENT. Calomel and opium. Corrosive sublimate. Red iodide of mercury. Iodide of potassium, 31. Syrup of iodide of iron. Morphia and Indian hemp, 317. Cod liver oil.—*Locally*:—Leeches, rest, and hot fomentations (in acute cases). Iodine liniment. Blisters. Friction with equal parts of belladonna and mercury liniments. Subcutaneous incisions through the membrane down to the bone, to relieve periosteal tension when excessive, or to prevent suppuration when imminent. Early incision, through skin and periosteum, when there is pus beneath the membrane. In chronic form rest, iodide of potassium, alkalies, the waters of Aix-la-Chapelle, Woodhall, &c.

PERITONITIS.—From Περιτείνω, to stretch all over; terminal *-itis*. Synon. *Inflammatio Peritonei.*—Inflammation of the serous membrane lining abdominal and pelvic cavities, and investing the viscera. May be acute or chronic. Rarely idiopathic; may be due to injury, perforation of stomach or intestines, disease of abdominal viscera, &c.:—

1. **Acute Peritonitis.**—Acute inflammation of peritoneum a serious disease. Accompanied with pain and swelling of abdomen, and severe symptomatic fever.

SYMPTOMS. Pain, gradually extending over whole abdomen. Sometimes chilliness and rigors. Fever, with small hard, long pulse. Exquisite tenderness of abdomen; increased by slightest pressure, and by any movement calling abdominal muscles into action. Patient lies on the back, with knees bent and legs drawn up. Abdomen tense, hot, and often tympanitic; motionless in respiration. Constipation; nausea and vomiting, often of green liquid; dry burning skin; small, long, frequent, feeble ("wiry") pulse; hurried respirations; often hiccough; and tongue thickly furred. Countenance expressive of anxiety and suffering. After a time, belly may cease to be tympanitic but remain enlarged from effusion of serum. When disease is about to end fatally, abdomen usually gets much distended; pulse thready and very quick; face assumes a ghastly expression; cold clammy sweats; and death takes place from exhaustion within eight or ten days of onset. In typical septic forms of peritonitis the pain and tenderness are less marked, the tympanites great, the pulse very rapid and temperature high.

Treatment. Opium, 344. Opiate suppositories, 340. Opium and aconite, 332. Opium and belladonna, 344. Poppy-head fomentations. Belladonna and opium with fomentation flannels. Hemlock poultice. Linseed poultice. Turpentine stupes. Leeches. Enemata of warm soapy water if there be fæcal accumulation in colon or rectum. If much tympanites, to wear a rectum tube.

Diet :—At first to be restricted to milk and water, tea, arrowroot, beef-tea, ice, iced water, barley water. Lime water and milk, 14. Beef-tea enemata, and no food by mouth if sickness or tympanites be marked. When exhaustion sets in, brandy; aromatic spirit of ammonia ; spirit of ether ; brandy and egg mixture, 17. Essence of beef 3.—Most perfect quiet. Air of sick room to be warm but pure. A cradle over abdomen to support bed-clothes. Good nursing.

Remedies sometimes employed :—Bloodletting. Blisters. Calomel and opium. American hellebore. Antiphlogistic regimen.

2. Chronic Peritonitis.—Sometimes the sequel of an acute attack : more frequently an independent affection. May be due to presence of tubercles on peritoneum.—*Tubercular peritonitis.*

Symptoms. Somewhat obscure. Abdominal pain slight. Attacks of colic : perhaps fever with obstinate diarrhœa. Tenderness and swelling of abdomen. Peculiar rigidity of abdominal walls. Nausea. Anæmia and wasting. Abdominal enlargement from effusion. When with tubercular peritonitis there is disease of mesenteric glands, phthisis, &c., the case steadily runs on to fatal termination.

Treatment. Attention to bowels. Mild but nutritious diet: milk or cream ; cocoa ; raw eggs ; solution of raw meat. 2. Cod liver oil. Iodide of iron. Perchloride of mercury. Quinine or bark. Chemical food, 405. Hypophosphite of lime, or soda, and sumbul, 419. Pepsine, 420. Diluted iodine liniment to abdominal wall. Iodine and cod liver oil ointment, 308. Iodide of cadmium ointment, 312. Blisters. Sea air.

PERITYPHLITIS.—From Περὶ, around ; τυφλὸς, blind ; terminal *-itis.* Obstinate inflammation of the connective tissue uniting the cæcum with the psoas and iliac muscles.

Symptoms. Severe pains shooting from right iliac region. Constipation or diarrhœa and tenesmus. Nausea. Mental depression. Fever. Pain and tenderness over cæcum, with tumefaction and increased resistance on pressure. Frequently suppuration. When abscess opens into cavity of cæcum, recovery often follows.

Treatment. See *Cæcitis.*

PERTUSSIS.—From *Per*, very ; *tussis*, a cough. Synon. *Whooping-cough ; Chincough*, &c.—See *Hooping-cough.*

PHANTOM TUMOUR.—An appearance results exactly resembling that caused by a large foreign body. Primary cause, whether in intestine or abdominal muscles, uncertain. Sometimes simulates pregnancy.—*Spurious pregnancy: Pseudo-cyesis.* Has been mistaken for ovarian tumour.—An erroneous sensation of a tumour often communicated to the hand by irregular contractions of recti muscles and distension of the bowels in sensitive subjects.

SYMPTOMS. Abdominal cavity appears to be entirely or partially filled by a foreign body, or by pregnant uterus. Swelling may be firm and unyielding; or it changes its position from day to day; or appears movable and as if attached by a pedicle. Sometimes, tenderness on pressure. Borborygmi on auscultation. Resonance on percussion, unless there be much fat. Arching forwards of lower dorsal and upper lumbar vertebræ. Swelling occasionally melts away under influence of prolonged manipulation; always dispersed on placing patient under full influence of chloroform.

General health usually bad. Anæmia. Hysteria. Irregularity of uterine functions. Dyspepsia. Ovarian irritation. Uterine disease.

TREATMENT. Improvement of general health. Cure of uterine or ovarian disease.—Bark and mineral acids, 376. Quinine, 379. Quinine and steel, 380. Quinine and nux vomica, 387. Steel and aloes, 393, 404. Strychnine and steel, 408. Zinc and nux vomica, 409. Valerianate of zinc, 410. Hypophosphite of soda, 419. Cod liver oil. Nourishing diet. Galvanism. Sea bathing. Shampooing. Support by abdominal belt or bandage.

PHARYNGITIS.—From Φάρυγξ, the gullet; terminal *-itis.* Synon. *Cynanche Pharyngea.*

(1) *Acute catarrhal pharyngitis* is common "sore throat," uncomplicated with tonsillitis. There is slight feverishness, dryness of throat, redness of fauces, and soreness on swallowing. Perhaps followed by catarrh (which see).

(2) *Chronic catarrhal pharyngitis* is the "relaxed sore throat" of weakly young subjects, or of persons exposed to cold, or addicted to intemperance. There is dryness of fauces, tenacious mucus causing frequent desire to clear the throat, uvula is usually relaxed, often chronic coryza with slight fœtor. "*Parson's sore throat,*" or *dysphonia clericorum,* is a chronic granular form of pharyngitis which attacks those who speak much in public.

TREATMENT. Astringent gargles. Paint part with nitrate of silver solution, or chloride of zinc solution, or tannin. Spray of chloride of ammonium. In granular pharyngitis it may be necessary to destroy granulations with solid nitrate of silver or galvano-cautery.

(3) *Phlegmonous or suppurative pharyngitis.* — Occasionally in hospitals and workhouses, walls of pharnyx are affected with diffuse erysipelatous inflammation. Attended with low fever, difficulty in swallowing, rapidly increasing prostration. Morbid action may run on to sloughing. Death from exhaustion

not uncommon. The remedies are,—Ammonia and bark, 371. Chlorate of potash and steel, 402. Quinine, 379. Ether and brandy, 367. Wine or brandy. Raw eggs. Restorative soup, 2. Thorough ventilation of sick room.

Syphilitic ulceration of velum and fauces may, after healing, produce narrowing and contraction of upper part of throat so as to impede deglutition and obstruct respiration. Incising edges of contracted opening sometimes useful. In severe cases, tracheotomy. The tracheal tube has been worn with comfort for years.

Elongation of uvula may result from chronic inflammation, or from a generally relaxed state of fauces. By irritating pharynx and epiglottis the hypertrophied uvula produces a troublesome tickling cough, worse on lying down at night, with occasional inclination to vomit. Astringent gargles, application of nitrate of silver, nourishing food, and ferrruginous tonics failing to cure, two-thirds of the organ had better be snipped off.—See *Retro-Pharyngeal Abscess.*

PHIMOSIS.—From Φιμόω, to bind tight.—A preternatural constriction of the foreskin, preventing its being drawn back over the glans penis. May be congenital or acquired.

SYMPTOMS. In children, a long and contracted foreskin often gives rise to symptoms resembling those of stricture, or of stone in the bladder. Obstruction to passage of urine, hence forcing during micturition an exciting cause of hernia as well as bladder disease. Irritation from inability to wash away secretions of corona glandis. In adults it may result from balanitis, gonorrhœa, or chancre. Swelling, from inflammation of connective tissue. Irritation, from accumulation of discharges; which may produce balantitis and in after-life epithelial cancer,—if there be any predisposition.

TREATMENT. In cases where phimosis is caused by inflammation.—Warm bathing. Fomentations and poultices. Slit up prepuce when there is a chancre. Circumcision always advisable in congenital phimosis with very narrow preputial orifice, but not where foreskin is long but reducible, unless it is apt to inflame.

PHLEBITIS.—From Φλέψ, φλεβὸς, a vein; terminal *-itis.*—Inflammation of the veins may be due to varicose dilatation or injury, but usually depends upon, or is accompanied by, a morbid state of the blood, as in phlegmasia after childbirth.

SYMPTOMS. Pain, increased on pressure, swelling, stiffness, and redness in course of vessel, generally spreading upwards towards heart. Œdema of the limb. More or less fever. When suppuration results, rigors and flying pains in various parts of body. Constitutional disturbance then great. The result of admixture of pus or other morbid fluids with blood is to cause the latter to coagulate: in this way a vein sometimes becomes filled with a coagulum; sometimes the connective tissue around inflames, suppuration and abscess follow, coats of vein ulcerate, and contained clot is discharged by means of the abscess. On the contrary, if poison does not produce coagulation, it mixes with the blood, affects entire system, and gives rise to secondary abscess in distant parts—lungs, liver, spleen, eye, joints, connective tissue, &c. Occasionally a clot is carried from a large vein to the heart, and causes sudden death.

TREATMENT. Ammonia and bark, 371. Chlorate of potash, 61. Sulphite of soda or magnesia, 48. Quinine, 379. Brandy and egg mixture with opium, 318. Opium, or opium and belladonna, 344. Morphia, chloroform, and Indian hemp, 317. Essence of beef, 2. Eggs, cream, and extract of beef, 5. Lime water and milk, 14. Port wine or brandy.—Perfect repose, which must be continued till convalescence well established. Fomentations. Linseed poultices. Hemlock poultices.

PHLEBOLITES.—From φλὲψ, a vein; *λίθος*, a stone.—Small calculi, from size of millet seeds to that of peas, occasionally found in the veins, especially of prostate. Frequently produce no obstruction; they lie in dilatations. Chiefly composed of phosphate of lime, carbonate of lime, and animal matter. Probably formed by calcareous degeneration of a clot.

PHLEGMASIA DOLENS.—From *phlegmasia*, inflammation; *dolens*, painful. Synon. *Phlegmasia Alba Dolens; White Leg.*—Thrombosis in systemic veins. A brawny, non-œdematous, painful swelling of one or both lower extremities, attended with prostration. Depends on thrombosis of deep and main veins of lower extremity. Coagulation due to some poisonous fluid entering the veins, or merely to cachectic state of system. Most probably, lymphatics also involved; they become obstructed. Most common after parturition, especially in women weakened by flooding, &c. Frequently occurs towards termination of uterine cancer. A similar condition may be induced in upper extremity by cancer of the axillary glands.—Left leg more often attacked than right.

SYMPTOMS. Commence in from one to five weeks after labour. Pain; slight fever; headache; thirst; nausea. Sometimes chills or rigors. Swelling and loss of motor power in affected extremity. Limb unnaturally hot; tender; non-œdematous, but swollen perhaps to twice its natural size, of pale white colour, tense and elastic; having a glazed or shining appearance.—After subsidence of acute symptoms, limb often remains enlarged for many weeks. May prove fatal if embolism or pyæmia occur.

TREATMENT. *Acute stage*:—Anodynes, to relieve pain and procure sleep. Limb to be kept at rest in most comfortable position, and fomented constantly. Flannel bandage wrung out in hot infusion of chamomiles or poppy heads to be placed lightly round the limb and covered with "oil-silk." Simple diet. Quinine.—*Chronic stage*:—Bandaging. Faradisation. Friction not before eighth week from onset, lest thrombus should be dislodged. Tonics. Sea air. Carriage exercise. Elastic stocking.

PHOTOPHOBIA.—From Φῶς, light; φοβέω, to dread. Synon. *Phenophobia; Aversion to Light.*—Intolerance of light is a painful symptom in some diseases of the nervous system and in many diseases of the eye,—*e.g.*, strumous ophthalmia, sclerotitis, &c. It may often be relieved by protecting the eye with a large green shade or veil, or by spectacles with glasses of a neutral tint. By darkening the room, with careful avoidance of subsequent sudden admission of light. Hot fomentations; or the steam of hot water, medicated with extract of belladonna or extract of poppies. Hemlock poultices over eye. Exposure of the eye to the vapour of twenty or thirty drops of chloroform placed in the warm hand. Small blisters behind the ear, or on temple. Painting skin of upper eyelid with tincture of iodine.

The constitutional remedies will be those required by the disease of which the photophobia is only one of the results.

PHRENITIS.—From Φρὴν, the mind; terminal *-itis.* Synon. *Cephalitis; Cerebritis; Brain Fever.*—See *Cerebral Inflammation.*

PHTHIRIASIS.—From Φθεὶρ, a louse. Synon. *Morbus Pedicularis; Phtheiriasis; Pediculatio; Lousiness.*—Human body may be infested with three kinds of lice:—*Pediculus corporis* vel *vestimentorum; Pediculus capitis* or *head louse;* and *Pediculus pubis* or *crab louse;* may be conveyed to whiskers or eyebrows. Prurigo senilis very frequently due to the *pediculus vestimentorum.* All are oviparous, the eggs being known as *nits;* sexes distinct; young are hatched in five or six days, and in eighteen days are capable of reproduction.

TREATMENT. Free washing with yellow or soft soap and hot water. For *Pediculi capitis,*—If numerous cut off the hair. Carbolic lotion 1 in 20 destroys the insects. Nits to be combed away, after washing the hairs with vinegar or spirit of wine or petroleum oil. *Pediculi corporis,*—Hot baths. Ung. staphisagriæ. Underclothing to be boiled, not simply washed; other clothes to be ironed with hot flat iron, or baked—250° to 300°. *Pediculi pubis,*—Removal of hair. Ung. staphisagriæ. Ung. hydrarg. ammoniati.

PHTHISIS.—From Φθίω, to waste away.—Synon. *Tabes Pulmonum; Tubercular Phthisis; Pulmonary Consumption; Decline.*—Includes all morbid processes leading to destruction of lung tissue and formation of cavities. The tendency to phthisis may be inherited or acquired. Left lung suffers most frequently. Apices and posterior parts of upper lobes most frequent seats of deposit at first. No period of life exempt from this scourge. Most frequent about puberty.—See *Tuberculosis.*

Phthisis has long been understood to imply tubercular disease, but though this is the most frequent and important cause of the destructive changes in the lungs constituting pulmonary phthisis, they may be induced otherwise. The following are recognised varieties—

Pneumonic phthisis, starting in catarrhal pneumonia, affecting separate lobules, the pneumonic products not being absorbed, but undergoing caseous degeneration, which is followed by destructive processes, probably dependent on the tubercle-bacillus of Koch.

Phthisis ab hæmoptoë, beginning in an attack of hæmoptysis; the blood congealing in the air-cells, setting up destructive inflammation independently of tubercle. It is very rarely that this sequence can be established.

Fibroid phthisis, in which, owing to chronic interstitial inflammatory process, there is great increase of pulmonary connective tissue, which, from its contractile properties, causes diminution of size of lung and dilatation of bronchi. Similar processes are known to take place in the liver and kidney. This may extend inwards from pleuritic exudation, or be due to any chronic pneumonic process, or to fibroid changes in tubercle. Said to be often associated with fibroid changes in other organs, and to be the result of a special constitutional tendency.

Fork and File Grinders' Phthisis, Miners' Phthisis, caused by irritation of solid particles, which set up a slow fibroid change and destructive inflammation of the lungs.

Syphilitic Phthisis, due to syphilitic deposit.

Of Phthisis there are two chief forms—

1. Acute Phthisis.—Two forms. *a. Acute Tuberculosis.* Commences suddenly with shivering, fever, rapid pulse, pain, cough, dyspnœa. Shortly afterwards, hectic fever, profuse sweating, diarrhœa. Increasing emaciation. Death from exhaustion, often before the tubercles have softened, and without formation of cavities, in about six weeks or from three to twelve weeks after commencement of disease; may be mistaken for typhoid.—Tubercles generally spread all through lungs in miliary form, deposit often begins in middle and lower lobes.

b. Acute Catarrhal Pneumonia. Begins with cough attended with fever and perspirations. The cough is frequent and violent, expectoration usually profuse, rapid loss of strength and flesh. Physical signs those of rapidly advancing condensation usually about apex of one lung, followed by excavation, harsh respiratory murmur, dulness and course crepitation, tubular breathing.

2. Chronic Phthisis.—The variety ordinarily met with. The tubercle may be confined to one or both lungs. There is first formation of tubercle, which interferes with passage of air to and from the air-cells; then inflammation round the tubercles and consolidation of the lung-substance; finally, breaking down of structure, and formation of cavities. Tubercle may be deposited also in mesenteric glands, larynx, tissues of intestinal walls, kidneys, liver, nervous centres, &c.

SYMPTOMS. Gradually increasing cough, sometimes hæmoptysis; debility, expectoration, loss of appetite, and dislike to fatty food, dyspepsia, accelerated pulse, pyrexia, especially towards evening, slight dyspnœa, loss of weight, sweating, diarrhœa. Weakness of voice or hoarseness. A festooned appearance at reflected edge of gums. Dull aching pain under clavicles or scapulæ. Sometimes, fistula in ano one of earliest symptoms. So long as tubercle is being deposited, the temperature of the body is usually raised.

Hæmoptysis most frequent in early stage: it is very rarely fatal. Mucous membranes of bronchi, larynx, and pharynx apt to get affected with low form of inflammation: tubercle sometimes deposited in submucous tissue of these organs. Disturbance of uterine functions in women: cessation of catamenia. Congestion and tenderness of liver. Incurvation of finger-nails: clubbed appearance of ends of fingers. The debility and emaciation become more and more marked. Profuse night sweats. Diarrhœa: either due to disordered secretions, or to tuberculous ulcerations about ileum and colon. Aphthæ about mouth and fauces. Urine sometimes contains albumen or sugar. Tenderness and œdema of extremities. Mental faculties usually remain clear until death.

Physical signs:—At *first* there may be no perceptible dulness on percussion. Respiratory sounds at affected apex feeble or harsh, and expiratory murmur audible and prolonged, with perhaps faint crepitus, or dry crackling. If tubercular deposit considerable, flattening of infra- and supra-clavicular regions. Defective expansion of upper and front part of affected side. Dulness on percussion, or percussion note of higher pitch. Harsh or tubular inspiration. Expiratory murmur prolonged. Bronchial respiration and bronchophony. In *second* stage, more marked depression of infra- and supra-clavicular regions. Deficiency of chest movement. Decided dulness on percussion, unless amount of tubercle be small and surrounded by emphysematous lung. Large crepitation. Puerile breathing in sound lung.—In *third* stage, great depression below clavicle. Flattening of whole of affected side. Retraction of intercostal spaces. Heart's impulse seen and felt at higher point than normally. Dulness on percussion, or "cracked-pot" sound, owing to solidity of layer of lung forming wall of cavity. Gurgling. Exaggerated conduction of voice. Cavernous respiration, if cavity be empty or nearly so; amphoric resonance and pectoriloquy, if it be also large.

For diminution of Vital capacity, see *Spirometry.*—For extent of Loss of weight, see *Weight of Body.*

TREATMENT. *General rules:*—Improvement of general nutrition. Attention to quantity and quality of food. Residence in a healthy climate: not necessarily a warm one. Exercise in open air, preferably without fatigue,—by riding, driving, sailing, &c. Ensuring purity of air in apartments occupied. Warm clothing: flannel or chamois leather next the skin. Daily tepid sponging, preferably with salt water; friction with coarse towels, flesh-brush. Strength on no account to be lowered: exacerbations of fever to be treated by simple salines, omitting tonics for a couple of days or so. In early stage, any complication (such as fistula in ano) may be cured by operation.

Diet:—Most nutritious. Animal food, so long as it can be digested. Pepsine, 420. Milk; cream; raw eggs. Iceland moss and quinine jelly, 13. Milk, flour, and steel, 16. Asses' milk. Saccharated solution of lime with milk, where there is acidity of stomach. Koumiss. Rum and milk. Brandy. Port wine or sherry. Burgundy. Champagne. Hungarian wines (Ofner Auslese, Szamarodnya Muscat, Carlowitz, &c. Bitter ale; Scotch ale; Guinness' stout. Too long an interval not to elapse between meals.

Change of air and scene:—Very valuable in early stages. Patients requiring a relaxing or sedative atmosphere in this country may be sent to Torquay, Undercliff of Isle of Wight, Sandgate, Hastings, Bournemouth, Penzance. Where a more bracing air is suitable, Brighton, Southport, Queenstown, Western coast of Scotland. If a more complete change than this country affords be wished for, Mentone, Cannes, Hyères, San Remo, Ajaccio, Malta, Malaga, Algiers, Madeira, the Canary Islands, Egypt, Colony of Natal, Canada; when a sea voyage is indicated, the Cape, Australia, or New Zealand.

Mountain climates sometimes of great service; diminished barometric pressure expands chest and causes hypertrophy of healthy lung-tissue. Patients in first stage with only limited mischief, with fair circulation, and able to take exercise are proper cases. Numerous elevated situations in Switzerland and Tyrol suitable for summer residence; at Davos and St. Moritz in Engadine and in other places arrangements made for winter.

Drugs:—Cod liver oil, 389. Malt and cod liver oil. Cod liver oil and bark enemata, 22. Inunction with oil, 283. Steel and cocoa-nut oil, 391. Steel and glycerine, 392. Hypophosphite of soda or lime, 419. Arsenic. Bark in full doses. Various preparations of iron, 380, 394, 397, 401, 403, 405, &c. Iodide of iron.—*For pyrexia:*—Quinine. Salicine. Salicylic acid. Salicylate of soda. Antipyrin. Warburg's tincture. Arsenic. Cold compresses. Sponging with vinegar and water. Bath of 90° lowered to 60°. "Wet pack," &c.—*If there be hæmoptysis:*—Iron alum, 116. Gallic acid, 103. Tannin and nitric acid, 99. Oil of turpentine, 102. Lead and acetic acid, 117.—*To relieve cough:*—Opium or morphia or codeia, 315, 316, 317, 346, 347, &c. Decoction of Iceland moss. Demulcent drinks, 19.—*If heart's action be irritable:*—Hydrocyanic acid. Digitalis or strophanthus.—*To check night sweats:*—Oxide of zinc, 111. Belladonna. Gallic acid. Picrotoxine, gr. $\frac{1}{60}$th in pill, or solution of atropine min. j or ij. Mineral acids with bark. Quinine. Sponging body with very hot water.—*To check diarrhœa:*—Rhatany, 96. Catechu, 97. Vegetable charcoal, 98. Matico and rhatany, 105. Sulphate of copper and opium, 106. Nitrate of silver and opium, 107. Kino and logwood, 108. White bismuth, 112. Astringent enemata, 112. *Laryngeal ulceration*:—Inhalation of compound tincture of benzoin, half a drachm in a jug of boiling water. *To check expectoration, and lessen laryngeal irritation*:—Turpentine, carbolic or creasote inhalations, 260 Hydrocyanic acid inhalations, 261. Thymol, eucalyptol, or iodine. Inhalation of spray medicated with tannic acid, turpentine, steel, &c., 262. Sponging epiglottis, pharynx, and even interior of larynx, with solution of nitrate of silver. Antiseptic treatment of sputa.

Local applications to chest walls:—Strapping of affected side to prevent movements of chest and give the diseased organ rest. Iodine liniment. Dry cupping. Croton oil liniment, 303. Succession of small blisters. Blisters, kept open by savine ointment or by Albespeyre's plaster, 208. Frequent poultices. Turpentine stupes. Friction with salt water; cod liver oil, 283; salad oil; belladonna and aconite liniment, 281. If pneumothorax should cause serious trouble the chest may be tapped and air let out.

Remedies which have been recommended:—Pancreatine and pancreatic emulsion. Malt extracts. Bromide of iron. Glycerine. Sulphur. Codeia. Phosphorus. Arsenic. Phosphate of lime. Mercury and chalk and other mercurials, Colchicum. Tar. Iodine. Tar vapour. Arsenical cigars. Stramonium cigars. Turkish baths. Horse exercise. Laying open cavity by incision through intercostal space, and treating it as a chronic abscess. Compressed air or inhalation of oxygen.

PIARHÆMIA.—From Πῖαρ, fat; αἷμα, blood.—See *Chyluria.* Milkiness of the serum or fatty blood is met with under certain circumstances in disease. Its physical causes are two—viz., free fat, and molecular albumen.

(1) Piarhæmia a physiological result of digestion, pregnancy, lactation, and hybernation. During digestion, lactescence of serum begins about two hours after ingestion of ailment, and continues for two or three hours. The serum is turbid, opalescent, and semi-opaque; a condition only transitory, and due to absorption of fatty matters of food, formed into an emulsion by pancreatic juice, and absorbed as such in duodenum. Examined microscopically, the serum is found to contain a large number of fat globules and of molecular granules of albumen. The passage of chyle into the blood renders the serum turbid; this turbidity lasting until fatty matters enter into combination with free soda of blood.

(2) Lactescent serum a pathological result of disease. The cases in which its occurrence has been noted are diabetes, chronic alcoholism, dropsy, jaundice, nephritis, hepatitis, pneumonia, and especially Bright's disease.

PICA.—From *Pica*, a magpie, probably because this bird was supposed to live on earth or clay.—A depraved form of appetite, in which there is a longing for remarkable substances, such as sand, cinders, slate pencil, chalk, clay, coal, sponge, &c., most common in pregnant women, chlorotic girls, and children.

SYMPTOMS.—Distaste for usual food. An almost uncontrollable desire for improper substances. Emaciation, anæmia, mental depression, colicky pains : sometimes diarrhœa from irritation of the intestinal mucous membrane, excess of acidity in gastric secretions.

TREATMENT. Vegetable tonics. Antacids. Mild aperients. Ammonia and steel. Opium. Bismuth. Quinine. Lime water and milk. Sucking ice. Regulation of diet.

PITYRIASIS.—From Πιτυρον, bran. Synon. *Dandriff; Dandruff.*—A chronic, squamous inflammation of the skin ; attended with slight redness and much irritation. Characterised by production of minute white scales, or scurf, in great quantity. May attack any region ; scalp and parts covered with hair most common seats of it—*Pityriasis capitis.* Desquamation takes place copiously and incessantly, often for months. *Pityriasis versicolor.* Forming brown patches on chest, &c., due to fungus.—See *Tinea versicolor.*

Pityriasis rubra, sometimes called *Eczema rubrum*, a general exfoliative dermatitis, giving rise to a red shining, tight appearance of the skin, which is covered by large thin scales. It is attended with marked deterioration of the health, and often proves fatal.

TREATMENT. *Pityriasis :* Alkaline lotions, carbonate of potash or liquor potassæ, ʒj to ℥viij. Sulphur ointment. Internally, arsenic. *P. Rubra :* Tepid baths and application of oil and other emollients (carron oil). *P. Versicolor, Chloasma :* Washing. Change of linen, and application of sulphurous acid (1 to 4) or mercurial ointment.

PLAGUE.—From *Plaga* (πληγή), a blow or wound. Synon. *The Black Death ; Pestilential Fever ; Levant Plague ; Septic* or *Glandular Pestilence.*—A continued contagious fever, attended with petechiæ and suppurative inflammation of lymphatic glands ; has a certain resemblance to typhus.

SYMPTOMS. A period of incubation, varying from a few hours to three weeks ; then rigor. Intense prostration. Racking headache and mental confusion. Fever. Petechiæ. Buboes, from effect of poison on the cervical, axillary, inguinal, and mesenteric glands. Carbuncles. Diarrhœa. Vomiting. Great congestion and softening of heart, liver, and spleen. Suppression of urine. Attacks of hæmorrhage, often from lungs. Convulsions, coma, or fatal exhaustion in twelve to twenty-four hours.

TREATMENT. Emetics. Mild aperients. Diaphoretics. Salines. Mineral acids. Disinfectants. Cold effusion. Friction of body with oil, as a preventive measure. Avoidance of contact. Buboes and carbuncles to be dressed antiseptically.

PLETHORA OR FULNESS OF BLOOD.—Synon. *Polyæmia; Hæmatoplethora; Hyperæmia.* An undue amount of blood in the system, or a superabundance of red corpuscles, the result of overfeeding and want of exercise, or of suppression of excretion. —Partial plethora, or a local congestion or determination of blood, is the superabundance of this fluid in one or more particular organs or tissues.

SYMPTOMS. Lassitude. Indolence. Desire for sleep. Snoring and dreaming. Vertigo. Hæmorrhage. Distended capillaries. Full, strong, resistant pulse. Turgidity of veins.

TREATMENT. Restricted diet (see *Obesity*): non-nutritious substances. Active exercise. Saline purgatives, 165, 167, 169. Bromide of ammonium, 37. Liquor potassæ, 73. Liquor arsenicalis. Mercury. Tartar emetic. Blood-letting. Issues. Mineral waters of Cheltenham. Vichy. Friedrichshall.

Abstinence from:—Beer; wine; spirits; sugar; milk; fatty matters. Lessened amount of sleep.

PLEURISY.—From Πλευρὰ, the side; the pleuræ being the serous membranes which invest the lungs and inner surface of thoracic walls. Synon. *Pleuritis; Inflammatio Pleuræ.*—Inflammation of the pleura runs an acute or chronic course; may be attended or not with effusion of fluid into pleural cavity. One side only may be affected, or both—bilateral pleurisy.

SYMPTOMS. Chilliness, or slight rigors. Fever. An acute lancinating pain in the side called "a stitch"; situated commonly below nipple, over antero-lateral attachment of diaphragm. Pain aggravated by expansion of lung in inspiration, coughing, lying on affected side, and by pressure. A short harsh cough. Hot and dry skin; temperature not very high, 101°–103°, unless pneumonia also present or pleurisy the result of blood poisoning, or assuming the form of acute empyema. Flushed cheeks. Hard and quick pulse. Slightly increased frequency of respirations. Anxiety and restlessness. Scanty and high-coloured urine.—Physical signs:—At first a *friction sound*, caused by the dry and inflamed pulmonary and costal surfaces of the pleura rubbing against each other. This rubbing may sometimes be felt by hand. It soon ceases: as the inflammation is resolved, and the two surfaces become moist and smooth; or the surfaces get adherent, the exuded lymph forming a pseudo-connective tissue; or the surfaces become separated by effusion of serum, constituting *hydrothorax.* Quantity of effusion varies from a few ounces to several pints; when excessive it compresses yielding lung, suspends its functions, displaces heart, mediastinum, and diaphragm, and somewhat distends thoracic parietes.

When pleurisy ends in suppuration, and pus accumulates in cavity of chest, the condition is known as *empyema*, which is more common in children than in adults. When this occurs, constitutional symptoms more serious, and temperature high: fever often of hectic character. The pus sometimes forms a bulging tumour in an intercostal space, with appreciable fluctuation. Occasionally, ulceration of costal pleura follows, extends through muscles, and forms an external aperture (a parietal fistula) through which pus is discharged. Or, pulmonary pleura may be perforated, an opening form into air-tubes (a bronchial fistula), and pus be expectorated.

Whether matter effused by serum, or serum mixed with blood, or pus, there will be dulness on percussion over lower part of chest. On auscultation respiratory murmur diminished. When lung compressed so that air only enters bronchial tubes, no vesicular murmur at all will be heard; but instead, *bronchial respiration*, and *bronchial voice* or *bronchophony*. Perhaps also, *ægophony*. When amount of effusion considerable, no sound may be audible in lower part of lungs. The fluid prevents the transmission of vibrations from the lung to chest walls, whence *absence of vocal vibration or fremitus*, which distinguishes the dulness of effusion from dulness due to consolidation. Heart may be greatly displaced; when fluid in left pleural cavity, impulse may be felt far to right of sternum. Affected side enlarged: intercostal muscles inactive; spaces, obliterated or even bulging; fulness of infra-clavicular region; shoulder depressed. On healthy side, respiration *puerile*. Sometimes patient cannot lie on sound side, because movements of healthy lung become impeded by superimposed weight of dropsical pleura.—When absorption of effusion occurs, and owing to adhesions the lung cannot expand, there will be a shrinking inwards of affected side.

In *latent* pleurisy, there may be neither pain, cough, nor dyspnœa. Yet effusion may occur until one-half of chest is found full of fluid.

TREATMENT. In acute stage:—Perfect rest in bed. Avoidance of talking or of full inspirations, so as to prevent undue friction between inflamed surfaces. A fine flannel bandage round chest lessens the movements of ribs. Large hot and moist linseed poultices, covered with extract of poppies. Poppy-head fomentations. Sinapisms. Turpentine stupes. Leeches. Cupping to three or four ounces, often relieves severe pain more quickly than other measures. Aperients, if there be constipation. Subcutaneous injection of morphia, 314. Opium. Aconite. Citrate of potash and ammonia, 211. Ether and ammonia, 212. Diet of gruel, milk, arrowroot, tea, and broths. Soda water. Lemonade. Cream of tartar drink, 356. Indian sarsaparilla and barley water, 20.—Tonics and good food during convalescence.—Quinine and iron, nourishing soups, and wine if patient be aged, or when symptoms assume a typhoid character.

To promote absorption of effused fluids:—Moderate diet, free from stimulants. Sinapisms to diseased side. Flying blisters frequently repeated. Friction with ointment of red iodide of mercury. Iodide of potassium, 31. Squills, digitalis, and blue pill, 28. Iodide of iron. Cod liver oil. The thorax to be tapped, and fluid withdrawn by aspirator or by trocar and cannula with antiseptic precautions whenever suffocation is threatened by amount of effusion, or from paroxysms of dyspnœa, or when remedies fail to produce absorption. In empyema, free incision with use of drainage-tube.

Remedies sometimes employed:—Calomel, or blue pill. Tartarated antimony. Colchicum. Digitalis. General bleeding. Leeches. Blisters.

PLEURODYNIA.—From Πλευρὰ, the side; ὀδύνη, pain. Synon. *Pleuralgia; Pleurodyne; Rheumatism of Walls of Chest; False Pleurisy; Stitch in the Side.*—Chiefly of importance because the pain, which is often severe, may be wrongly attributed to pleurisy or pericarditis, or even to peritonitis.

SYMPTOMS. General health impaired. Loss of appetite. Low spirits. Urine loaded with urates or phosphates. In exceptional cases, rheumatism of joints. Acute pain, often coming on suddenly, frequently referred to infra-mammary region: increased by a deep inspiration, or by any movement which stretches the muscles. In nineteen cases out of twenty, muscular and fibrous textures of left side of chest alone affected. Often connected with uterine disturbances, especially in anæmic girls.

TREATMENT. Iodide of potassium, 31. Subcutaneous injection of morphia or chloroform, 314. Quinine. Bark. Iron. Arsenic. Cod liver oil. Warm baths. Turkish baths, 130. Sulphur baths, 125. Belladonna and opium liniment, 281. Veratria ointment, 304. Hot linseed poultices. Sinapisms. Animal food. Milk. Steel, milk, and flour, 16. Light wines. Brandy and soda water.

Cupping, leeching, blistering, and purging will only render the disorder more intractable.

PLEURO-PNEUMONIA. — Synon. *Pleuro-peripneumonia.* — Inflammation, attacking simultaneously the pleura and lung. Pneumonia may happen without pleurisy. But when the pleura is involved in the inflammation, the pneumonia forming the chief affection, the double disease is known as *pleuro-pneumonia.* If the pleurisy predominate, it is sometimes called *pneumo-leuritis.*—See *Pneumonia.*

PLICA POLONICA.—From *Plico*, to twine together. Synon. *Trichosis Plica; Trichoma; Polish Ringworm.*—A disease of the hair, probably allied to common ringworm of this country. Endemic in Poland, and some parts of Russia and Tartary. Characterised by tenderness and inflammation of scalp; hairs become swollen and imperfectly formed; hair follicles secrete a large quantity of viscid reddish-coloured fluid, which glues the hairs together, and unites them into tufts or felt-like masses. Two cryptogamic plants—the Tricophyton tonsurans and Tricophyton sporuloides—have been detected by a minute examination. Sometimes, matted hairs loaded with pediculi. Disease not confined to scalp, but may involve hairs on any part of integument. Odour from affected parts said to be most disgusting.

TREATMENT. See *Tinea*.

PNEUMONIA.—From Πνευμονία, a disease of the lungs, of which there are three forms. 1. Acute inflammation of the substance of the lungs,—Lobar or croupous pneumonia. 2. Broncho-pneumonia, lobular or catarrhal pneumonia, usually occurs in children under five years. 3. Chronic or interstitial pneumonia, usually tuberculous (see *Phthisis*). Right lung suffers twice as often as left. Lower lobes more frequently attacked than upper.

SYMPTOMS. Disease ushered in with restlessness and general febrile disturbance. Sudden and severe rigors; followed by nausea, cough, expectoration of viscid and rust-coloured sputa, pain in side, frequent distressed breathing, pulse increased in frequency, usually in moderate degree but sometimes reaching to 140 or even 160 beats in minute; dry pungent heat of skin, *calor mordax;* temperature of body rising quickly, perhaps to 105° F.; thirst, loss of appetite, prostration, headache, and perhaps transient delirium: *Herpes labialis* common.

Said to consist of three stages:—(1) That of *engorgement* or *splenization*, in which substance of affected part gets loaded with blood or bloody serum, and there is exudation into air-cells, with proliferation of lining epithelium. On auscultation, *minute crepitation* is heard; at first, mingled with vesicular murmur. Percussion, at commencement, affords natural resonance, which gradually becomes obscured. This stage often not detected, and physical signs of next the first to present themselves.—(2) If the inflammation proceed, it passes into stage of *red hepatization*, in which the air-cells are choked by coagulated exudation, the spongy character of lung is quite lost, and it becomes solid, though more lacerable than natural. Neither minute crepitation nor vesicular murmur can now be heard. *Dulness* on percussion, *bronchial or tubular breathing*, and *bronchophony* present, together with *increased vocal vibration*, communicated to the walls of the chest by the solidified lung, and felt by the hand, unless there is also effusion into the pleural cavity.—(3) When disease still advances, there is reached the stage of *grey hepatization*, or *purulent infiltration;* consisting of diffused suppuration of pulmonary tissue, parts of lung remaining dense and impermeable. Often, no true suppuration: appearance of such simulated by liquefied exudation matter in air-cells preparatory to its removal. In latter case, air begins to re-enter affected part of lung; as evidenced by return of crepitation (*redux crepitation*) less fine than at first, and heard at end of inspiration, mingled with and then superseded by healthy vesicular murmur. The usual termination is by *Crisis*, a rapid fall of temperature with amelioration of the general symptoms which takes place before the physical signs begin to disappear. Commencement of defervescence generally between the 5th and 7th day, may occur sooner or later; convalescence and clearing of lung occupies variable time. When portion of lung breaks down and pus is expectorated, large gurgling crepitation will be heard.

Pneumonia of apex more common in children than in adults, and is met with among the latter mostly in drinkers, or as a result of poisoning by sewer gases. It is often attended with delirium.

For first day or two of pneumonia a normal amount of chlorides will be found in the urine; the quantity diminishing as inflammation advances, until they have disappeared by time hepatization is complete. As latter recedes, the chlorides reappear. A deficiency of chloride of sodium in urine not peculiar to pneumonia.—Occasionally, in depressed constitutions, pneumonia ends in diffused, or in circumscribed, gangrene.

Chronic pneumonia may occur as sequel of acute disease; giving rise to persistent consolidation of a portion of pulmonary tissue. May be mistaken for solidification due to tubercle. It causes weakness, emaciation, cough, attacks of feverishness, loss of appetite, and sense of oppression about chest.

TREATMENT. *Acute form*:—Perfect rest in bed. A dose of castor oil, if there be constipation. Solution of acetate of ammonia, 211. Small doses of opium, if there be pain or restlessness. Vapour of chloroform, to relieve cough and dyspnœa. Carbonate of ammonia, with bark, if there be much debility, 212. Large linseed poultices, or poppy-head fomentations, to affected side of chest. Turpentine stupes. Light diet with plenty of cold water. Strong beef tea, wine or brandy, milk or cream, as soon as there are indications of exhaustion. *During convalescence*:—Milk, raw eggs, wine, animal food. Ammonia and bark, 371. Quinine and steel, 380. Cod liver oil.

Chronic pneumonia:—Iodide of potassium and bark, 31. Iodide of iron, 32. Hydrochlorate of ammonia. Quinine. Iron. Cod liver oil. Nourishing food. Turpentine stupes. Iodine liniment. Bracing air in summer, mild in winter.

Remedies sometimes employed:—Tartarated antimony. Calomel. Veratrum viride. Digitalis. Iodide of potassium. Bicarbonate of potash, grs. 3 to 30 every three, four, or six hours, according to age, freely diluted with some mucilaginous drink. Application of ice to walls of chest. Blood letting. Leeches. Blisters. Antiphlogistic regimen.

PNEUMOTHORAX.—From Πνεῦμα, air; θώραξ, the chest. Synon.

Pneumatothorax.—A collection of air in the pleura. When, as generally happens, there is liquid with the air, the disease is called *Pneumothorax with Effusion* or *Hydro-pneumothorax*, or, if the liquid is purulent, *Pyo-pneumothorax.*—May arise from injury *to the lung* by jagged ends of a broken rib: from an external penetrating wound: from ulceration and perforation of the pleural surface by extension of a tubercular cavity.—Physical signs:—Great resonance on percussion; with indistinctness of respiratory murmur on auscultation. Amphoric resonance and echo; elicited by placing stethoscope at one point and tapping chest with finger at another; or better, by placing a coin firmly against the chest wall and striking it with the edge of another. Splashing and metallic tinkling, on practising succussion, in pneumothorax with effusion.

TREATMENT. Quiet. Strapping of affected side, or bandage round chest. Morphia and hot poultices to relieve pain. In some rare instances, the dyspnœa has been so urgent that the air, or air and fluid, have had to be evacuated by puncturing pleural cavity with a grooved needle or by aspirator.—Stimulants: Wine. Brandy. Ether, &c.

POISONS.—Consist of any matters which, when absorbed into the blood, are capable of destroying life. "Deadly poisons" are such substances as rapidly prove fatal in small doses. The term "destructive thing" is applied to any mechanical irritant,—such as pins, needles, particles of iron or glass, sponge, &c.

Poisons are arranged according to their action into three classes,—*Irritants*, *Narcotics*, and *Narcotico-Irritants*. Another division is into Irritants and Neurotics; the latter consisting of Narcotics or Cerebral poisons, and Narcotico-Irritants or Spinal and Cerebro-spinal poisons (Taylor).—See *Poisons*, in Tabular Synopsis.

SYMPTOMS. *Irritants*:—Give rise to pain in stomach and bowels, sickness, purging with tenesmus. Evacuations often tinged with blood; pulse feeble and irregular; skin cold. Many irritants corrode the tissues with which they come in contact; hence they produce severe burning sensations in mouth, œsophagus, and stomach. The degree of chemical action produced will vary in proportion to amount of water with which noxious agent has been diluted. They cause death by inducing collapse, or convulsions; or by exciting severe inflammation; or, after a variable interval, by leading to stricture of œsophagus. Diseases which most resemble action of irritants are,—Malignant cholera, severe diarrhœa, colic, gastritis, enteritis, rupture of stomach or intestines, trichinosis, and obstruction of bowels.

Narcotics:—Act on brain and spinal cord, inducing headache, drowsiness, giddiness, stupor, and insensibility. Frequently there are convulsions; sometimes paralysis. Very seldom vomiting or diarrhœa. The symptoms of apoplexy, epilepsy, and uræmia, bear a resemblance to those caused by poisons of this class. With regard to one intensely powerful agent (nitrobenzole) the symptoms may not come on for a few hours, unless several drops have been taken. In the latter case there is rapid coma and death.

Narcotico-Irritants :—Produce great thirst, pain in throat and stomach, vomiting and purging, delirium with spectral illusions, and rarely convulsions. Sometimes tetanus, sometimes coma or syncope. Diseases of brain and spinal cord often very insidious in their progress : hence they give rise to symptoms which may be improperly attributed to poisoning. The history, mode of attack, &c., should serve to prevent error.

TREATMENT. The object of practitioner may be comprised under three heads :—(1) *To promote discharge of poison from system.* When the poison has been introduced into stomach, recourse to be had to stomach-pump or to emetics. The *stomach-pump* is the best instrument for emptying the stomach, washing it out, and administering the antidote. Its employment not advisable in poisoning by corrosives, as it might cause laceration of tissues, or even perforation of œsophagus or stomach. When used, less fluid should be withdrawn than is pumped into stomach. If stomach-pump cannot be employed, *emetics* must be trusted to, unless the poison has itself produced sufficient vomiting. Sulphate of zinc, rapid in action and but slightly depressing in its effects, 232. Mustard useful, 232. In poisoning by opium and other narcotics, when other emetics fail, sulphate of copper often acts well, 232. Ipecacuanha useful, especially for children, 231. A warm and stimulating emetic can be made with ipecacuanha and ammonia, 233. Vomiting may also be excited by tickling the fauces : by free administration of hot water, or of hot greasy water.

When poison has been administered by rectum, or when it is thought to have passed from stomach into bowels, *enemata* are necessary. Salt and water, oil and barley water, soap and water, 188. Castor oil and turpentine, 190. Croton oil, 191.

When poison has been applied through wound in skin, absorption to be prevented. Ligature between trunk and wounded part, as near latter as possible. Removal of deleterious substance by suction ; use of cupping glasses. Stream of cold water, long continued.

(2) *To counteract operation of poison by antidotes.* No universal antidote known : hence treatment varies with nature of substance taken. An antidote should possess these properties :—It ought to allow of being given in large doses without danger ; it should act upon the poison, whether liquid or solid, at a temperature equal to or below that of body ; its action should be quick ; it should be capable of combining with the poison, though shielded by gastric juice, mucus, bile, or other substances contained in stomach ; and it should deprive the poison of its deleterious properties (Orfila). Antidotes operate by forming harmless chemical combinations, or by producing insoluble compounds : they thus

destroy the poison, or prevent its absorption. Purified animal charcoal has been recommended. It seems to have the power of combining in the stomach with poisonous principles of animal and vegetable substances, so as to produce innoxious substances : when given in large quantities it will absorb some mineral substances (especially arsenic) and render them inert : about half an ounce of charcoal is required to each grain of morphia, strychnine, or any other alkaloid ; but much less for the drugs from which they are obtained, a scruple of nux vomica, for example, not requiring more than half an ounce of charcoal ; and lastly, this antidote has no injurious action on the body (Garrod).

In poisoning by *Mineral Acids*, the remedies are :—Carbonate of soda, calcined magnesia, or carbonate of magnesia, freely in milk or any mucilaginous fluid. In absence of these, whiting, soap and water, plaster off the walls. Olive oil, linseed tea, gruel, milk, barley water. If breathing be impeded, by injury to larynx, tracheotomy. Subsequently, remedies against gastritis. External parts when injured to be bathed with soap and water, olive oil, lime liniment.

Vegetable Acids :—Stomach-pump or emetics. Draughts containing magnesia, chalk, or whiting : mucilaginous or demulcent drinks. Alkalies (soda, potash, or their carbonates) form salts with oxalic acid, which are as injurious as the acid itself.

Carbolic Acid :—Oil. Epsom salts. White of egg.

Phosphorus :—Vomiting to be encouraged by large draughts of mucilaginous or albuminous drinks. Full doses of magnesia. Emetics of sulphate of zinc, sulphate of copper. Turpentine. Oil to be avoided, as it is a solvent of this substance.

Iodine :—Vomiting to be encouraged. Free administration of amylaceous fluids, as gruel, arrowroot, white of egg, starch. Latter to be continued as long as blue iodide of starch is vomited. Inhalation of amyl nitrate.

Ammonia, Potash, Soda, and their Carbonates :—Vinegar and water to neutralize poison. Acidulated barley water, orange or lemon juice. The use of oil has been recommended, with object of converting the alkali into a soap.

Nitrate, Sulphate, and Acid Tartrate of Potash :—No antidotes known. Vomiting to be produced. Demulcent drinks.

Baryta and its Salts :—Sulphate of soda, or sulphate of magnesia, or some earthy sulphate, so as to convert the poison into an inert and insoluble sulphate of baryta. Emetics or stomach-pump. Stimulants in collapse.

Arsenic :—Stomach-pump. Emetics. Vomiting to be kept up by albuminous or mucilaginous diluents. Raw eggs in milk. Eggs, milk, and lime water. Equal parts of oil and lime water. Castor oil (fl. oz. ij) to carry off any portion which has passed into intestines. Animal charcoal. Calcined magnesia. Hydrated sesquioxide of iron has been undeservedly praised : if given, large doses necessary (a tablespoonful frequently repeated). Subsequent depression of nervous power to be combated by stimulants and opium. For any inflammatory action, opium or conium or henbane.

Corrosive Sublimate :—Vomiting to be encouraged. Best antidotes, albumen and gluten of wheat :—White and yolk of several raw eggs ; flour, made into a paste with milk or water. Subsequently, demulcent drinks and milk and Wenham Lake ice. Gargles of alum and myrrh, 252 ; tannin, 251 ; borax, 250 ; chlorinated soda, 254. Opiates. Chlorate of potash, 61. Iodide of potassium, 31.

Salts of Lead :—Soluble alkaline or earthy sulphates, as the sulphates of soda or magnesia. Milk, or milk and raw eggs. Emetics, or stomach-pump. Croton oil enema, 191. In *chronic lead poisoning* :—Croton oil, 168. Castor oil and opium, 164. Sulphate of magnesia with sulphuric acid, 142. Enemata of hot water. Hot sulphur baths, 125. Opium, 316, 317, 339, &c. Iodide of potassium, 31.

Salts of Copper :—Vomiting to be encouraged by warm water. Albumen, the only effectual antidote. Hence several raw eggs are to be given, followed by milk or mucilaginous drinks. Laudanum. Poultices to stomach.

Tartarated Antimony (Tartar Emetic) :—Vomiting to be encouraged by milk ; warm greasy water. As tannate of antimony is inert, tea to be given ; decoctions of oak bark ; gallic or tannic acid. Tincture of galls. Cinchona bark in tincture or powder.

Chloride of Antimony (Butter of Antimony) :—Magnesia in milk. Tea ; decotion of oak bark ; gallic acid.

Sulphate of Zinc :—Vomiting to be encouraged by milk or albuminous fluids. Remedies containing tannin, as for antimony.

Chloride of Zinc :—Emetics and albuminous drinks, followed by preparations of tannin.

Nitrate of Silver :—Common salt. Emetics, if vomiting be absent.

Bismuth :—No antidote known. Vomiting to be promoted. Emollient drinks.

Chrome :—Emetics. Magnesia or chalk.

Sulphate of Iron (Green Vitriol) :—Magnesia and diluents.

Vegetable and Animal Irritants :—Vomiting to be excited or encouraged. Purgatives. Linseed tea, gum water, gruel. Warm baths. Opiates. Emollient enemata. In poisoning by cantharides, oil to be avoided ; as it is a solvent of the active principle (cantharidine).

Irritant Gases :—Removal of patient to pure air. Artificial respiration (see *Suspended Animation*). Cautious inhalation of ammonia, ether, or steam.

Opium :—Stomach-pump. Emetics of sulphate of zinc, 232 : sulphate of copper, 232 : of a tablespoonful of mustard in water. Where there is inability of swallowing, emetics to be administered as enemata. Patient to be prevented from sleeping by dashing cold water over head and chest ; walking him up and down in open air between attendants : electro-magnetic shocks to spine; flagellation to legs with a wet towel; administration of strong coffee. Alcoholic stimulants. Artificial respiration. Belladonna, in from thirty- to sixty-minim doses of the tincture every hour, as an antidote, or atropine hypodermically.

Hydrocyanic Acid (Prussic Acid):—No antidote to be relied on. Chlorine and mixed oxides of iron been recommended; if they were at hand their efficacy would be doubtful. Atropine $\frac{1}{75}$th gr. hypodermically. Animation to be restored by fresh air and by cold affusion; stimulating frictions to chest and abdomen; ammonia to nostrils. Artificial respiration. After recovery from immediate effects, vomiting to be produced. Strong coffee. Brandy.

Nitro-Benzole (Essence of Mirbane, Artificial Oil of Bitter Almonds):—Strong coffee. Brandy. Ammonia. Turpentine enemata. Cold affusion. Galvanism. Artificial respiration.—The same treatment is necessary in poisoning by *Aniline.* No antidotes are known; but it might be advisable to try the effects of animal charcoal. if the case were seen early.

Chloroform and Ether:—Stomach-pump if these poisons have been swallowed. Where symptoms follow inhalation,—Exposure of patient to current of pure air. Cold affusion. Galvanism to larynx and pit of stomach. Artificial respiration, 313. Amyl nitrate inhalations. Incline body so that head is lowest.

Alcohol:—Stomach-pump. Cold affusion. Solution of acetate of ammonia properly diluted. Warmth to be promoted. Sinapisms to extremities and cardiac region. Strychnine.

Henbane, Lettuce-Opium, and Nightshade:—Emetics. Full doses of castor oil. Stimulants. Coffee enema.

Narcotic Gases:—See *Suspended Animation.*

Nux Vomica, Strychnine, and Brucia:—Emetics. Stomach-pump. Enema tabaci. Purgative enemata. Olive oil. Tannic acid. Animal charcoal. Warmth and sweating to be induced. Perfect quiet. Chloral in 30-gr. doses. Chloroform to diminish tetanic spasms. Artificial respiration.

Belladonna:—Emetics. Morphia. Hypodermic injection of pilocarpine $\frac{1}{3}$rd gr. Castor oil. Animal charcoal.

Aconite:—Emetics. Castor oil. Animal charcoal. Strong coffee. Ammonia or brandy. Limbs to be rubbed with hot towels. Artificial respiration.

Digitalis:—Emetics. Castor oil. Infusions containing tannin, as tea, decoction of oak bark, tincture of galls. Tannic acid in water. Strong coffee or brandy. Recumbent posture.

(3) *To remedy effects produced and obviate tendency to death.* Frequently too long an interval has elapsed between exhibition of poison, and the time when emetics or antidotes can be of use. If absorption have taken place, the symptoms must be palliated. In poisoning by depressing agents and narcotics, or such as destroy nervous force, lowering agents to be avoided; whilst stimulants and cold affusion and galvanism are resorted to. When breathing and circulation seem about to cease, artificial respiration may preserve life till the poison is eliminated. To promote

elimination, the excreting functions are to be excited. Thus, in poisoning by arsenic, the employment of diuretics has been proposed, because it has been found that this poison is eventually carried off in large quantities by the urine.

POLYÆMIA.—From Πολὺς, much; αἷμα, blood.—Abundance o blood.—See *Plethora.*

POLYDIPSIA.—From Πολὺς, much; διψή, thirst. Synon. *Sitis Morbosa; Excessive Thirst.*—A symptom in many diseases—fever inflammation, cholera, diabetes mellitus, diuresis, &c.

POLYPUS.—From Πολὺς, many; πούς, a foot.—A tumour so named because it was supposed to have numerous attachments or feet.—See *Nasal Polypus; Otorrhagia* (for polypus of ear); *Uterine Tumours; Rectal Polypus.*

POLYSARCIA.—From Πολὺς, much; σάρξ, flesh.—Excessive corpulency.—See *Obesity.*

POLYURIA.—From Πολὺς, much; *urea.* A condition in which a larger quantity of urine than natural is secreted, containing an absolute and relative increase of urea.—See *Diuresis.*

PRESBYOPIA.—From Πρέσβυς, an old man; ὤψ, the eye. Synon. *Presbytia; Visus Senilis; Long-sight.* An alteration in the refractive powers of the eyes, producing presbyopia, or long-sightedness, is one of the earliest indications of the commencement of old age. Seldom begins before the forty-fifth year.

Symptoms. The range of accommodation is diminished: vision is imperfect for near objects; distant ones are seen clearly. Often accompanied by weakness of sight (amblyopia). Rapid increase of presbyopia is a precursor of glaucoma.

Treatment. Convex glasses directly vision fails for ordinary work; to be so worn that they can be seen over at pleasure for distant objects. If there be anæmia, quinine, and ferruginous tonics. Cold water douche to eyes.

PRIAPISM.—Priapismus, from Πρίαπος, the virile member terminal -ισμός. Constant and distressing erection of penis. May arise from:—(1) Injury or disease of spine, as fracture of lower dorsal or upper lumbar vertebræ. Disease of brain. Has been met with in leucocythemia, and may occur without obvious cause. (2) The rupture of some vessel, with extravasation o blood into corpora cavernosa. (3) Subacute inflammation, with effusion of lymph into corpora cavernosa. (4) Vascular and nervous excitement, owing to excessive venery.

Priapism may sometimes be relieved by:—Bromide of potassium, 42. Iodide of potassium, 31. Henbane, camphor, and hop, 325. Camphor and belladonna, 326. Belladonna suppositories, with opium if there be pain, 340. Iodoform suppositories

338. Aconite or belladonna lotions, 265. Cold lotions, 273. Arnica lotions, 275. Faradisation. Galvanism.

PROCTALGIA.—From Πρωκτὸς, the rump or anus; ἄλγος, pain. Pain about the anus: due to fissure, neuralgia, or to organic disease.—See *Rectal Neuralgia.*

PROCTITIS.—From Πρωκτὸς, the rump or anus; terminal *-itis.* Inflammation of the rectum and anus.—See *Rectitis.*

PROPTOSIS OCULI.—From Προπίπτω, to fall forward; *Oculus*, the eye. A protrusion of the eyeball, so that the lids cannot cover it. Met with in peculiar forms of anæmia.—See *Graves' Disease.*

PROSTATIC ENLARGEMENT.—Hypertrophy may result from chronic prostatitis, or in advanced life independent of any inflammatory action. Never seen in patients under fifty. Sir H. Thompson maintains that it exists in about 34 per cent. of men at and above sixty years of age, with distinct symptoms in 15 per cent. Very frequent in men of sedentary vocations. Produces displacement or compression of urethra, so that micturition is rendered slow and difficult. The whole gland may enlarge equally, or only the central portion.

SYMPTOMS. Difficulty in emptying the bladder, frequent micturition, especially at night. Later, incontinence of urine, the bladder being over-filled but not readily emptied. Occasional hæmaturia and complete retention. Impaired health, at first owing to stagnant urine in bladder and chronic cystitis, later hrough kidney disease, the ureters and renal pelves becoming dilated owing to obstruction to escape of urine into the overloaded and hypertrophied bladder. Surgical kidney. Fatal uræmia.

TREATMENT. Explore prostate by rectum. Ascertain by percussion how far the bladder becomes filled. Observe how he patient passes water; when he has emptied the bladder as much as possible, introduce No. 7 vulcanite catheter cautiously so as to draw off the "residual" urine. If this exceeds three or four ounces catheter must be regularly used. If amount exceeds en ounces, patient must be kept warm in bed, fed on light farinaceous diet with no alcohol. The patient must be taught o pass the catheter, which must be kept in antiseptic fluid. If urine is fœtid, wash out bladder with boracic solution, ʒj in ℥j.

Very rarely the prostate becomes the seat of *cancer*,—especially he medullary form.

PROSTATITIS.—From *Prostata*, the prostate gland—*Prosto*, to tand in front, this gland being anterior to the bladder; terminal *itis.* Synon. *Inflammatio Prostatæ.*—Inflammation of the prostate may occur in course of gonorrhœa, from violence, use of trong injections to urethra, exposure to wet in unhealthy constitutions, excessive venery, diseases of rectum, and irritation of cantharides.

SYMPTOMS. Pain and tenderness about perineum, with sense of heat. Frequent painful micturition. Pain during defecation. Feeling of weight about perineum and rectum. Great suffering if a catheter be passed. Aggravation of suffering, rigors, fever, difficulty of micturition, &c., when the morbid action progresses to abscess.

TREATMENT. Perfect rest in bed. Hot hip baths. Fomentations. Poultices. Free use of belladonna to perineum. Opiate suppositories or enemata, 339, 340. Simple nourishment, without stimulants. Colchicum, 46. Iodide of potassium, 31. Bromide of potassium, 42. Hydrochlorate of ammonia, 60. Opium, 324, 339, 340, 345. Aconite, 330, 331. Belladonna, 326, 344.

In abscess:—Incision through perineum directly there is fluctuation. Ammonia and bark. Nourishing food; raw eggs, cream, essence of beef, &c. Wine, if there be much depression.

PRURIGO.—From *Prurio*, to itch; terminal *-igo*.—A chronic non-contagious papular cutaneous disease. Causes intense itching. The term *Prurigo* should not be used as the synonym of *Pruritus* or *itching*.

VARIETIES. *Prurigo mitis*, the mildest form.—*Prurigo formicans*, the itching being combined with a sensation like the creeping of ants or stinging of insects.—*Prurigo senilis*, which occurs in old age, and may last for the remainder of patient's life.—Irritation from prurigo not to be confounded with that caused by lice. These insects often present in old age where there is a want of cleanliness. See *Phtheiriasis*.

TREATMENT. *Internally:*—Aloes, gentian, and potash, 140. Sulphate of soda and sulphur, 148. Sulphur and magnesia, 153. Rhubarb and magnesia, 165. Pepsine and aloes, 155. Sarsaparilla and iodide of iron, 32. Tar capsules, 36. Arsenic, 52. Steel and arsenic, 399. Tincture of cannabis indica to relieve itching. Bark and mineral acids, 376. Nitro-hydrochloric acid, 378. Quinine, 379. Nourishing food, avoiding stimulants. Acidulous drinks.

Locally:—Alkaline baths, 121. Sulphur baths, 125. Conium baths, 122. Creasote baths, 123. Bath of liquor carbonis detergens, ℥ij to a gallon of warm water. Applications of vinegar, lime water, tobacco water, solution of corrosive sublimate, solution of creasote, solution of hydrochlorate of ammonia, lotions with prussic acid and glycerine. Ointments of boracic acid, aconitine, tar, nitrate of mercury, stavesacre, sulphur, &c. Sponging with apple vinegar, and then smearing with diluted nitrate of mercury ointment.

PRURITUS ANI.—From *Prurio*, to itch; *Anus*, the fundament.—A very troublesome itching of anus not uncommon in cases of hæmorrhoids, dyspepsia, intestinal worms, pediculi, &c. Old people often complain of it; as do women towards the end of pregnancy, or at the change of life. Common in diabetes.

SYMPTOMS. Severe itching of fundament; increased by heat, rich living, &c. Often prevents sleep. The friction resorted to causes the surrounding tissues to become thickened and furrowed.

TREATMENT. *Internally*:—Electuary of senna and taraxacum, 194. Confection of pepper or sulphur. Rhubarb and blue pill, 171. Simple enemata, 188. Arsenic with bitter infusions, 52. Iodide of iron and sarsaparilla, 132. Tar pills, or capsules, 36.

Locally:—Remove piles. Destroy worms or pediculi. Corrosive sublimate and prussic acid lotion, 263. Borax, morphia, and glycerine, 268. Lint dipped in tincture of opium. When there is eczema apply acid nitrate of mercury ointment diluted with two parts of vaseline. Lemon juice or vinegar, to toughened integument of anus in chronic cases; afterwards smear vaseline over the parts. Calomel and belladonna ointment, 299. Diluted citrine ointment, 305. Fuller's earth (chiefly a compound of silica, alumina, oxide of iron, and magnesia). Glycerine. Nitrate of silver.

General remedies:—Cold bathing or sponging. Daily exercise in open air. A diet free from alcohol, coffee, and seasoned dishes. Cool bedroom: to sleep on a hard mattress, without too heavy clothing.

PRURITUS VULVÆ.—See *Vulval Pruritus*.

PSORIASIS.—From Ψώρα, tetter.—A dry scaly eruption which affects the extensor aspect of the joints, especially over the olecranon and the patellar tendons. It may be diffused over the whole body.

TREATMENT. Arsenic. Carbolic acid ($\frac{1}{2}$ gr. doses). Externally, tarry preparations.

PTOSIS.—From Πτόω, to fall. Synon. *Ptosis Palpebræ; Blepharoptosis; Prolapsus Palpebræ.*—An inability to lift the upper eyelid from palsy of the third nerve. May be due to cerebral disease, to congestion of brain, to simple debility. When there is organic disease it may be accompanied by amaurosis.

PUERPERAL FEVER.—From *Puerpera*, a woman in childbed. —Fever in a woman recently delivered. From the condition of the blood after childbirth, a woman is at this time peculiarly susceptible to the influence of septic or other blood poisons, which give rise to a severe and often fatal form of fever.

At least three forms of disease described under this name: 1. True puerperal fever, a form of septicæmia. 2. Peritonitis, metritis, pelvic cellulitis, &c. 3. Pyæmia from uterine phlebitis, &c.

The poison of true puerperal fever may be from scarlatina or other fever, from erysipelas, post-mortem, or dissecting-room taint, but especially from a previous case of puerperal fever. It may be introduced through the atmosphere, or through a breach of surface of the vulva, or into the vagina. Or septic matter from decomposing blood or bit of retained placenta or putrid lochia may enter circulation by raw surface left by detachment of placenta.

SYMPTOMS. Rigor, or repeated slight shivering, usually within three days of delivery, sometimes later; followed by high fever. Temperature 103°—105°. Pulse very rapid. Anxious expression. Prostration of strength. Tenderness on pressure at hypogastrium. Abdomen distended. Lochia and milk suspended. Course of disease varied: sometimes rapid death from blood-poisoning, or peritonitis with extreme tympanites, or diarrhœa, or phlebitis and phlegmasia dolens, or pelvic cellulitis and abscess.

TREATMENT. Calomel and James's powder, followed by salines at onset (Rigby). Quinine. Quinine and nitric acid. Turpentine. Opium. Morphia injections. Fluid food. Stimulants early.

Locally:—Wash out vagina and uterus once with solution of perchloride of mercury (1 in 1000). Afterwards three or four times a day with iodine, permanganate of potash, or carbolic acid solutions. Fomentations. Poultices.

PUERPERAL MANIA.—From *Puerpera* (*Puer* and *pario*), a woman in childbed; Μαίνομαι, to rage.—A peculiar form of insanity occurring to women, mostly primiparæ, from fourth to fourteenth day after delivery.

SYMPTOMS. Commence with restlessness, insomnia, severe pain in head, diminution of secretion of milk. Sometimes, skin hot and dry, or pale, cold, and clammy: pulse quick: tongue thickly furred: features pinched. Often, great debility: perhaps prostration from flooding, lingering labour, or some morbid poison in system. Maniacal excitement frequently violent. Great general irritability. Complete change of character, indifference to decency: tendency to suicide, or child-murder. Patient, after acute symptoms, sinks into a state of confusion and weakness, and in a few weeks wakes as from a dream. Three out of four recover.

TREATMENT. Indications are, first to support powers of patient: second, to allay irritability of brain and procure sleep. (1) Brandy and egg mixture, 17. Ammonia and bark, 371. Quinine and phosphoric acid, 379. Cod liver oil, 389. Pounded beef in broth. Wine. Beer. Milk. (2) Chloral, gr. 25 to 30. Extract of stramonium, 323. Extract of opium, 343. Morphia and Indian hemp, 317. Subcutaneous injections of morphia, 314. Chloroform inhalation, 313.—Patient to be controlled by a trained nurse. Separation from family and friends, unless symptoms quickly yield to remedies.

PULMONARY APOPLEXY. — From *Pulmo*, the lungs. — The extravasation of blood into the air-cells of the lungs, and its coagulation there. It is usually due to embolism of branches of pulmonary artery. It may be *circumscribed*, the effusion varying in size from a pea to an orange: or it may be *diffused* through the broken-down pulmonary tissues. Arises from disease of heart, lung tissue, blood-vessels, or anæmia.

PULMONARY CANCER.—Most commonly of sarcomatous character. May occur as a primary or secondary infiltration, or as a primary or secondary nodular deposit. Generally associated with mediastinal cancer.—See *Intra-Thoracic Tumours*.

SYMPTOMS. When occuring *primarily*:—Flattening of affected side, impairment of respiratory movements, dulness on percussion. Pain, emaciation, night sweats, dyspnœa, failure of powers of life, purulent expectoration, &c. Right lung most frequently affected. Often, effusion into pleural cavity or chronic bronchitis as a complication.

In *secondary* cancer, symptoms very obscure. Frequently, dyspnœa the chief indication of pulmonary mischief. Both lungs usually affected.

Primary cancer or sarcona of *pleura* very rare. Usually the disease is associated with cancer of breast, or sarcoma of lung, pericardium, mediastinum, &c. Deposit found as small spots, or hard layers, or in form of tumours which sometimes become pedunculated. May be attended with effusion of serum, or pus, or blood. Symptoms sometimes simulate those of phthisis.

TREATMENT. Attempts must be made to relieve symptoms as they arise. Strength to be supported by nourishing food; cod liver oil; stimulants. If there be much suffering, morphia with chloroform and Indian hemp, 317. Opiate enemata, 339. Opiate suppositories, 340. Subcutaneous injections of morphia, 314.

PULMONARY CONDENSATION.—Consolidation of the vesicular tissue of the lung may arise from several causes. Thus, it may result from pneumonia, phthisis, cancerous deposit. From pressure exerted on lung, by fluid poured out in pleurisy; by extravasated blood, as in pulmonary apoplexy; by enlarged bronchial lymphatic glands, which are arranged along sides of air-tubes; by aneurismal or other intra-thoracic tumours. A small tube, or even a main bronchus, may thus become so obstructed that air cannot pass; and as a consequence there results collapse of that portion of lung to which the compressed bronchus leads.

In *cirrhosis* of the lung (fibroid infiltration), the vesicular structure of affected part contains no air: it is dense and hard; and is infiltrated by a tough, fibrous, and greyish material; or intersected by bands of white fibrous tissue in all directions. Perhaps there may be numerous small cavities filled with yellowish viscid mucus; the cavities consisting of dilated bronchial tubes. If entire lung be affected there will be dulness on percussion; expansion movement scarcely perceptible; no vesicular murmur; but perhaps loud gurgling rhonchi on forced inspiration. Usually the result of pleurisy, with exudation of layer of lymph, which becomes organised and invades lung substance. Of great rarity as an idiopathic affection; often connected with tubercle.

Another important form of pulmonary condensation is due to collapse of the air-cells from the plugging up of a bronchial tube. This condition sometimes described as *disseminated lobular pneumonia*, *marginal pneumonia*, *carnification*, or *pulmonary collapse*. It may be acquired or congenital:—

In *acquired pulmonary collapse*, the margin of lung, or an irregular portion of one lobe, or an entire lobe, or the whole of the organ may be involved. Obstruction owing to increase in secretion of mucous lining of tubes, with inability to cough it up. Hence, not uncommon during course of bronchitis or hooping-cough in feeble subjects. Or, secretion natural in quantity, but unduly viscid; while from debility or old age it is expelled so imperfectly that an accumulation takes place in central or some other part of lung, and acts like a plug. Physical signs.—dulness on percussion, with an absence of respiratory murmur over affected parts: unless morbid condition has been of some duration, when these signs may be masked by occurrence of a kind of compensating emphysematous distension of those portions of lung anterior to obstruction.—Stimulants, tonics, and restorative food are the only remedies of any value.

Congenital non-expansion of air-cells met with in weakly infants. Known as *Atelectasis*, from Ἀτελῆς, imperfect; ἔκτασις, expansion. —An infant so affected looks as if about to die. Often jaundiced: cry consists of a weak whimper: inability to suck: drowsiness and exhaustion: surface cold and slightly livid: chest but partially dilated by imperfect respiratory movements. The solidity will perhaps lessen as strength is gained, and good health be ultimately attained: or death may occur from exhaustion, with convulsions. To obviate latter, child to be wrapped in cotton wool, and kept in warm room: hot bath once or twice in twenty-four hours; friction of chest with cod liver oil and soap liniment: administration of milk, a few drops of port wine, tincture of bark, and solution of raw beef every two hours.

PULMONARY GANGRENE.—Gangrene of the lung is an occasional termination of pneumonia in enfeebled constitutions, with a depraved state of blood. It is due to thrombosis or embolism of branches of the pulmonary artery. Very rarely occurs independently of pneumonia, from some impediment to pulmonary circulation. May be met with in children as an accompaniment of cancrum oris. The gangrene may be diffused or circumscribed.

SYMPTOMS. Great and increasing debility. Loss of flesh. Hectic fever. Night sweats. Weakness and rapidity of pulse. Anxiety of countenance. Cough. Expectoration of frothy greenish-tinted sputa, which have a most offensive odour.

Peculiar fetor of breath. In diffused gangrene, patient soon sinks from exhaustion. In the circumscribed form the symptoms come on more gradually, beginning with indications of pulmonary congestion. After a time there may be a little improvement, which slowly increases, and patient recovers.—In both forms, the *physical signs* are those of pulmonary condensation; with, subsequently, those caused by destruction of tissue and the formation of a cavity.

TREATMENT. Strength to be supported by tonics. Quinine. Iron, 379. Ammonia. Bark, 371, &c. Inhalation of turpentine vapour, 260. Inhalation of atomised solutions of turpentine; iodine. Antiseptic respirator to be frequently worn, charged with iodine, creasote, carbolic acid, thymol, eucalyptus, &c. Incision and antiseptic drainage may be entertained. Cod liver oil. Nourishing food. Animal food. Good soups. Milk, cream, and raw eggs. Stout or ale. Port wine or brandy, &c.

PURPURA.—From Πορφύρα, a purple dye. Synon. *Hæmorrhœa Petechialis.*—A morbid condition of the blood and capillary vessels; leading to extravasations of blood into the skin, and upon mucous surfaces.

Purpura Simplex.—Numerous petechiæ or vibices, which do not disappear on pressure; occurs in debilitated persons; mildest form.

Purpura Rheumatica, or *Peliosis Rheumatica.*—A hæmorrhagic rash with fever and pains in joints.

Purpura Hæmorrhagica.—Severe variety.

SYMPTOMS. Languor and debility. Sallow or dusky complexion. Epistaxis. Pains about epigastrium. Craving for food. Palpitation. Giddiness. Constipation. Sanguineous effusions into different tissues. Small hæmorrhagic spots or petechiæ. Large patches—vibices or ecchymoses. Enlargement and softening of the spleen. Marked anæmia from loss of blood. Death not infrequently.

TREATMENT. Animal food. Fresh fruit or vegetables. Milk. Wine or beer. Aloes. Senna. Castor oil. Tinct. ferri perchloridi 20 or 30 drops three times a day with ergot and digitalis. Quinine, 379. Arsenic, 381. Iron, 397, 399. Vinegar. Acetate of lead. Tinctura laricis min. 20–30. Oil of turpentine, 50. Gallic acid, 103. Citric acid. Lemon juice.

PYÆMIA.—From Πύον, pus; αἷμα, blood.—A general infection of the whole system by a slowly increasing poison, probably a parasitic micro-organism which always produces secondary abscesses. It is characterised by a peculiar and irregular form of fever, with recurrent rigors, followed by heat and sweating; rapid loss of flesh and strength; sallow tint of skin, and peculiar odour of breath and perspiration. Microscopic emboli are carried from the focus of infection, which set up inflammation, and cause pyæmic abscesses in the lungs, the connective tissue, joints, &c. —See *Sapræmia* and *Septicæmia.*

PYELITIS.—From Πύελος, a trough; terminal *-itis*. Inflammation of mucous membrane lining pelvis and infundibula of kidney. —See *Nephritis*.

PYREXIA.—From Πῦρ, a fire; ἔχω, to hold.—The febrile state, or an attack of fever.—See *Fevers*.

PYROSIS.—From Πυρόω, to set on fire. Synon. *Water-brash.*—A form of indigestion in which there is frequent eructation of a thin, watery, and acid or tasteless fluid. More common in women than men. Not infrequent in advanced life. Often exists in connection with some derangement of nervous or uterine system; or with organic disease of stomach, pancreas, or liver.

Symptoms. Pain at pit of stomach, followed by eructation of watery and insipid or acid fluid. Sometimes nausea and vomiting; heartburn. Often associated with other symptoms of indigestion.

Treatment. White bismuth. Solution of ammonio-citrate of bismuth (Schacht's). Bismuth lozenges (officinal). Bismuth, with magnesia or soda, 65, 112. Saccharated solution of lime and milk, 14. Solution of potash and lime water, 73. Ammonia in effervescence, with hydrocyanic acid, 362. Carbonate of magnesia. Opium. Henbane. Hop. Kino. Powder of kino and opium. Compound powder of rhubarb. Nux vomica. Nitrate of silver. Oxalate of cerium.

For diet, &c., see *Dyspepsia*.

PYTHOGENIC FEVER.—Looking to the origin of the typhoid poison, the appellation of *Pythogenic fever* has been suggested,—πύθογενης, from πύθων (πύθομαι, to putrefy), and γεννάω, to engender. Literally, "born of putridity" (Murchison). Synon. *Enteric* or *Typhoid Fever*.—See *Typhoid Fever*.

RABIES.—From *Rabio*, to rave. Synon. *Rabies Canina.*—See *Hydrophobia*.

RECTAL CANCER.—Usually columnar-celled epithelioma, or adenoid cancer (Cripps). Sometimes attacks anus, and may extend some distance up the rectum.

Symptoms. Not well marked at first; often spurious diarrhœa; but little suffering until difficulty in defecation arises. When practitioner is consulted, coats of bowel generally found extensively infiltrated with cancer, producing considerable contraction. Severe lancinating pains. Attacks of hæmorrhage. Offensive muco-purulent discharges. Debility, ending in complete prostration. Loss of flesh. Cancerous cachexia, &c. Ulceration into bladder or urethra in men; frequently, into vagina in women. Death from exhaustion.

Treatment. Opium, 343. Opium and belladonna, 344. Opiate suppositories, 340. Subcutaneous injections of morphia or atropine, 314. Morphia, chloroform, and Indian hemp, 317. Iodoform pills or suppositories, 338. Nourishing food: milk, cream, raw eggs. Brandy: wine. Excision, cutting wide of affected tissue, and immediately afterwards touching all parts of raw surface with chloride of zinc. If too late, formation of artificial anus in eft loin: so as to prolong life for a few months, and render it more endurable.—See *Cancer.*

RECTAL NEURALGIA.—Synon. *Proctalgia.*—May persist for many weeks, without altogether subsiding for a day. Pain aggravated by passage of stools. Tenesmus. Pain may be confined to a single spot.—To be cured by nourishing food. Pepsine, 420. Simple enemata, 188. Suppositories of opium and belladonna, 340. Quinine. Zinc. Steel. Cod liver oil. Examine carefully for fissure of anus.—See *Neuralgia.*

RECTAL POLYPUS.—From Πολὺς, numerous; ποὺς, the foot,—because these tumours were supposed to be attached by many oots.—A *vascular* form, resembling the urethral caruncle in women, is common in children. The *adenomatous* or *glandular polypus* arises from the mucous membrane; it may be soft and vascular, or firm (*fibrous polypus*). A *villous tumour*, resembling hat sometimes found in urinary bladder, occasionally grows with a broad base from mucous membrane of rectum.

SYMPTOMS. Uneasiness about fundament. Frequent desire o go to stool. Mucous discharge tinged with blood. In vascular nd villous growths, perhaps abundant hæmorrhage. A polypoid umour usually descends whenever the bowels act.

TREATMENT. Application of a silk ligature, and immediate emoval of tumour below it with scissors. If there be no fear of leeding, excision only.

RECTAL PROLAPSUS. — From *Prolabor,* to glide forward. ynon. *Prolapsus Ani.*—There may be protrusion only of mucous ning of rectum, or all the coats of the bowel will be found rolapsed. Caused by want of tone in sphincter ani, constipa-on, straining at stool, prolonged diarrhœa, irritation of worms, himosis, enlarged prostate, stricture of urethra, stone in blad-er, &c.

SYMPTOMS. At first, protrusion only occurs when bowels act. fter a time, descent follows any exertion, as standing, cough-ng, &c. Only a fold of mucous membrane comes down, or nverted bowel is forced out to extent of five or six inches. When prolapsus is almost constant, intestinal mucous membrane ecomes indurated, perhaps ulcerated: sphincter ani found much elaxed. Discharge of mucus tinged with blood. A general sense weight and distress about the body, with severe pain on going stool.

TREATMENT. Treat exciting cause first. Replacement usually fected without difficulty. Sometimes, especially in children, bowel descends immediately after reduction: to be prevented by applying a pad of lint, and drawing buttocks firmly together with a broad strip of adhesive plaster. Advantageous to make children pass their motions when lying on side, so as to prevent violent straining. Draw anus by fingers a little to one side while motion is passing, this may prevent descent of bowel (Cripps). General health to be improved: bark, quinine, glycerine, steel, cod liver oil. Constipation to be prevented: taraxacum, carbonate of magnesia, cream of tartar, or mercury and chalk. After each evacuation, bowel to be replaced: anus to be sponged with cold water. Astringent enemata of alum and decoction of oak-bark; or of tincture of perchloride of iron and water; or of infusions of matico or rhatany. Suppositories of tannic acid and cocoa butter.

Medical treatment failing:—Excision of two or three folds of mucous membrane and skin at margin of anus by means of clamp and Paquelin's cautery. A dose of opium to be administered, and patient kept in bed for a week.

RECTAL STRICTURE.—Stricture of rectum may be limited to a ring of condensed tissue,—the *annular* form; or it may be confined to one side of bowel, as when it follows cicatrization of syphilitic and other ulcers, or of operation-wounds in cases of piles and fistula, or almost the whole gut may be narrowed and indurated. To be distinguished from constriction due to cancer, or to pressure of tumours; as well as from simple spasmodic contraction produced by anal ulcer, &c.

SYMPTOMS. Constipation; small stools; great difficulty in voiding solid motions. Straining and bearing-down efforts. Flatulence. Pain in loins and sacrum. Mucous discharges, sometimes stained with blood. Development of fistula. Depression of general health; low spirits. If ulceration follow, burning pains; tenderness about sacrum and fundament; discharges of blood and pus; considerable constitutional disturbance.

TREATMENT. Dilatation by soft flexible bougies: an instrument to be passed occasionally for some months after apparent cure. Sponge tents, 426. Notching of annular stricture with probe-pointed bistoury, and plugging with oiled lint: subsequently, use of bougies. Only satisfactory when there is a very narrow band, not involving deep tissues. In obstinate cases, *linear proctotomy*, or division of stricture, sphincter, and soft parts, down to coccyx. Suppositories of opium and belladonna, 340. Aperient electuaries, 194. Simple enemata, especially of olive oil, 188. Nourishing food. Glycerine. Cod liver oil. Aperient waters.

RECTAL ULCERS.—(1)—*Irritable ulcer of rectum* or *fissure of anus.*—An apparently slight affection, which causes great suffering. Ulcer generally superficial; about one-eighth of an inch broad and third of an inch long; seated immediately within anus, and generally towards the coccyx; often complicates piles and fistula. Most common in women; sometimes produces pelvic pain, irritability of bladder, and great pain during sexual intercourse. Passage of stools irritates the sore; producing spasm of sphincter ani, and acute burning pain which lasts some hours.—To make a thorough examination, chloroform sometimes needed.—To heal the ulcer, constipation to be prevented by mild aperients, saline aperient waters. Castor oil. Electuary of senna and taraxacum, 194. Dinner pill of pepsine and watery extract of aloes, 155. Belladonna. Cod liver oil. Copaiba. Nourishing food, free from stimulants. Locally,—Suppositorium krameriæ. Mercurial ointment and belladonna, made into a solid stick with cocoa butter, 424. Ointment of nitrate of mercury, 305. Calomel and belladonna ointment, 299. Nitrate of silver to be avoided. A longitudinal incision through centre of ulcer and superficial fibres of sphincter ani: one or two grains of opium immediately afterwards, so as to confine the bowels for two or three days. Forcible dilatation of anus so as to rupture fibres of sphincter. If an external pile be present near fissure, it should be snipped off.

(2) *Chronic ulceration with thickening of coats of rectum.*—May arise as one of secondary effects of syphilis. May also be due to deposit of tubercle; to cancer; or only to a depressed state of general health. Cause to be removed. Opiate and belladonna suppositories, 340. Subsequent contraction to be prevented by bougies.

(3) *Rodent ulcer.*—This intractable disease is met with at margin of anus, the sore gradually creeping up rectum. Requires complete excision. Destruction with potential caustics, chloride of zinc, 197. Steel with arsenic, 381, 399. Cod liver oil. Sulphate of zinc ointment, 294. Subcutaneous injections of atropine, or morphia, 314.

RECTITIS.—From *Rectus*, straight; terminal *-itis*—because this portion of the gut was supposed to be straight. Inflammation of the rectum and anus. A rare disease, now that drastic purgatives and alcoholic drinks are less abused than formerly. May be produced by external violence, or introduction of some foreign body into gut.

SYMPTOMS. Sense of intense heat around anus. Severe pain shooting up sacrum and back. Spasmodic contractions and excessive sensitiveness of sphincter ani. Tenesmus, with passage of dark-coloured gelatinous mucus. Irritability of bladder. Constitutional disturbance.

TREATMENT. Rest in bed. Milk and farinaceous diet. Sedative enemata, 339. Opiate suppositories, 340. Ipecacuanha. Saline draughts, 348. Hot hip baths. Linseed poultices.

RECTUM, FOREIGN BODIES IN.—May consist of:—(1) Substances which have been swallowed; such as stones of fruit, fish-bones, coins, &c. (2) Concretions formed in intestines, having a gall-stone or some mass of indigestible matter as a nucleus. (3) Articles forced through anus; as pieces of wood, masses of flannel or sponge, syringe-pipes, gallipots, bottles, ferrules, &c.

In attempting removal of substance, force to be avoided. If sphincter be contracted, relaxation should be procured by lubricating with iodoform (one part to four of lard), and dilatation by fingers of operator. Chloroform seldom necessary. Indurated fæces to be extracted with a lithotomy scoop or handle of spoon.

REFLEX PARALYSIS.—From *Reflecto*, to turn back. That form of palsy in which irritation at the periphery affects the centre. Diseases of uterus, urinary organs, and intestines, common causes of this form. To be remedied by cure of cause, provided irritation has not existed long enough to induce organic disease in spinal cord.—See *Paralysis*.

RELAPSING OR FAMINE FEVER.—The name of *relapsing* or *recurrent fever* has been bestowed upon this infectious disease. Like typhus, it occurs as a consequence of poverty, overcrowding, and filth.

A bacteroid organism is found in the blood; from its spiral form it is called spirilla.

Symptoms. There may be a latent period of three or four days, or not.—Sudden accession of rigors, frontal headache, muscular pains; followed by fever, with flushing and great heat of skin, rapid pulse, thirst, pain at epigastrium, and vomiting. Jaundice occasionally present. Temperature often very high, sometimes 107°. A scarlet rash on abdomen and thigh, or true petechiæ and purpuric spots perhaps appear, but no characteristic eruption. Prostration. On 5th or 7th day profuse perspiration and complete subsidence of fever. Patient apparently quite well but weak, or suffering from rheumatoid pains, when about 14th day from commencement of symptoms, there is a relapse. On 3rd or 4th day afterwards, there is again improvement, and gradual restoration.—Seldom fatal: mortality about 1 in 40.

Treatment. As for typhus. Gentle aperients. Refrigerating drinks. Farinaceous diet. Perfect repose. Quinine. Opium. Wine. Tea and coffee. Wet pack. Sponging body with tepid water, or vinegar and water, 138. If there be jaundice, nitro-hydrochloric acid, 378. Nitrate of potash. Dry cupping to nape of neck. No remedy prevents the relapse. Antipyrin will relieve pain in limbs, but if any tendency to cardiac failure, give digitalis and ammonia.

REMITTENT FEVER.—From *Remitto*, to abate. Synon. *Febris Remittens*.—The cause of this disease being the same as that of ague, it might be described as *miasmatic* or *paludal remittent fever*.

Remittent fever varies much in severity according to nature of climate in which the poison is generated. Autumnal remittents of England and France comparatively mild: endemic remittents of tropical climates often very severe and fatal. The locality where the fever prevails seems often to impress some peculiarity upon it, especially as regards the nature of the complications which arise: hence, remittent fever has been described under the names of *Walcheren fever*, *Roman fever*, *Mediterranean fever*, *Jungle* or *Hill fever* of East Indies, *Bengal fever*, *Bilious remittent* of West Indies, *Sierra Leone fever*, *African fever*, &c.

SYMPTOMS. The symptoms bear a resemblance to those of intermittent fever, except that there is no cessation of the fever, but simply an abatement or diminution. Shivering, followed by high fever, vomiting, sometimes jaundice. Length of remission varies from six to twelve hours; at the end of which time the feverish excitement increases, the exacerbation being often preceded by chilliness and rigors.

Remissions usually occur in the morning: the principal exacerbation is generally towards the evening. The disease may run on for some fourteen or fifteen days, and end in an attack of sweating; or it may merge into low fever. Infantile remittent, so called, is a form of typhoid fever.

TREATMENT. Principles to be followed, the same as in ague. Attempts to be made to shorten the exacerbation, and to lengthen the remission.—Saline and effervescing draught, 348, 349, 354. Cold drinks,—water; lemonade; ice; cold tea; cream of tartar, 356, 360. Aperients, 139, 140, 144. Emetics of ipecacuan, if there be nausea without vomiting, 231. Sinapisms to epigastrium, if there be troublesome vomiting. Tepid sponging, 138. Cold affusion, 134. Wet sheet packing, 136. Simple diet. Avoidance of stimulants.

Directly remission takes place, from 1 to 6 grains of quinine to be given every six hours: omitting it as the hot stage sets in. At next remission, to be commenced again.

Salicin. Sulphate of beberia. Warburg's tincture. Arsenic. Cold affusion; blisters to nape of neck, if stupor sets in. If there be jaundice, turpentine stupes or sinapisms to epigastrium. Nourishing broths; raw eggs; and stimulants when depression follows. Avoidance of mercury and bloodletting at any stage.

RENAL CANCER.—The rarest form of kidney disease: most common during first years of childhood and in old age. In children the disease, usually sarcoma, attains great size. Carcinoma may be primary or secondary. When the disease is primary only one gland is usually attacked: if secondary, the reverse. Cancerous degeneration usually commences in cortical substance, and thence extends to medullary cones as well as to pelvis and ureters.

In primary cancer the renal tumour frequently attains an enormous size: fills abdominal cavity, so that it has been mistaken for ovarian tumour. In secondary form, kidneys enlarge to smaller extent: often feel nodulated on surface.

Chief symptoms,—enlargement of affected gland. Hæmaturia; more blood escaping than in cases of calculus. Pain in loins. Sickness. Emaciation. Anasarca: perhaps ascites. Fatal exhaustion.

Medical skill can only relieve the prominent symptoms. If passage of urine be obstructed by blood clots, catheter must be used. Nephrectomy.

RENAL DEGENERATIONS.—From *Ren*, a kidney: *Degenero*, to degenerate.—Three different varieties of kidney disease included under this head: Fatty, Amyloid, and Cystic Degeneration.

1. **Fatty Degeneration.**—Synon. *Large White Kidney.*—May be the result of acute desquamative nephritis; of strumous diathesis; bad living, intemperance, constant exposure to wet and cold, &c. Kidney large, pale, soft, evidently fatty on section.—See *Nephritis* (desquamative).

Symptoms. Gradually increasing debility; frequent and irritable pulse; striking pallor—perhaps combined with puffiness—of face and skin generally; frequent micturition, patient having to rise once or oftener in night to pass water; dyspepsia, with attacks of obstinate vomiting. A tendency to grave inflammations of serous membranes—pericarditis, peritonitis, meningitis, pleurisy; also to amaurosis, usually attacking both eyes, and due to albuminuric retinitis and degeneration. Anasarca of limbs, with dropsy of different cavities; in rare cases (unless there be co-existent heart disease) œdema of lungs, setting in suddenly, and rapidly producing serious dyspnœa. Ultimately some form of uræmic poisoning, such as convulsions, due to effects of retained urea upon nervous system; coma, soon ending in death.

Characteristic appearances of urine:—scanty secretion, highly albuminous, of low specific gravity. In early stages, generally free from sediment; examined by microscope, neither renal epithelium nor casts of tubes found. After a variable interval, while general characters of urine remain unaltered, there appears a light cloudy sediment; containing small waxy casts, in which are entangled one or more globular or oval cells enclosing numbers of oil-globules. Several cells completely filled with oil, presenting appearance of dark opaque masses. Usually, the casts have adhering to their surface many small oil-globules, which have escaped from ruptured cells; while numerous cells, containing oil, together with detached oil-globules, are scattered over field of microscope.

When the urine is of natural colour, highly albuminous, and presents a large number of oily casts and cells, prognosis most unfavourable. These appearances indicate as serious and intractable a malady as tubercular disease of lung (George Johnson).

Treatment. Palliation of symptoms. Regulation of diet:

abstinence from intoxicating drinks, starch, sugar. Sea air. Occasional purgatives,—Compound jalap powder; elaterium, &c. Bark, or quinine. Mineral acids. Ferruginous tonics. Opium may be needed if there be great irritability and restlessness: it must be prescribed with great caution. Hot water or vapour baths. Puncture of anasarcous extremities.—See *Nephritis; Uræmia; Fatty Degeneration.*

2. **Amyloid Degeneration.**—Synon. *Waxy* or *Amyloid form of Bright's Disease.*—Waxy, lardaceous, or amyloid degeneration of kidney probably never exists alone. It renders kidney inefficient as an excreting organ, and ultimately useless. Has often some connexion with scrofula, syphilis, or disease of bones. Kidney large, firm, heavy, has glistening section; turns blue or almost black colour, with iodine and sulphuric acid.

SYMPTOMS. Loss of strength, coming on gradually. Lassitude. Thirst. Excessive secretion of urine: patient has to rise two or three times during the night to micturate. Œdema of feet and ankles. Enlargement of liver and spleen. Urine albuminous, of low specific gravity, pale in colour, of acid reaction: under quarter of an inch object-glass delicate and transparent and waxy or hyaline tube-casts, are seen, which are formed by the coagulation of an exudation from blood-vessels into tubules denuded of epithelium. Progress of case slow. Sooner or later, anæmia; diminution in quantity of urine, with increase of albumen. Diarrhœa, if intestinal mucous membrane become affected with waxy degeneration. Ascites, or general dropsy. Death from effusion into pleuræ or pericardium; from bronchitis, or phthisis; from exhaustion; or from convulsions and coma due to uræmic toxæmia.

TREATMENT. Good may be effected in early stages by sea air: nourishing food: ferruginous tonics. If there be any syphilitic taint,—Iodide of potassium, 31. Iodide of iron, 32, 390. Cod liver oil. Subsequently relief of prominent symptoms. —See *Uræmia.*

3. **Cystic Degeneration.**—Four forms of cystic disease may affect the kidney:—(1) Small scattered cysts, few in number, are often present on surface of kidneys, or in cortical substance, without interfering with functions of these glands. Very rarely such a cyst attains a great size, contains some pints of fluid, and forms an appreciable abdominal tumour.—(2) Cysts, varying in size from a pin's point to a hazel-nut, are not uncommonly developed in kidneys affected with chronic desquamative nephritis. Result of obstruction of uriniferous tubes by exudation. —(3) Congenital cystic degeneration may be complete or incomplete. Infants sometimes born with large irregular-shaped kidneys, made up entirely of cysts, without any trace of secreting tissue. Usually combined with other malformations.—(4) Conglomerate cystic degeneration may occur gradually in adults, owing to expansion of portions of uriniferous tubes, with

obstruction and atrophy of intervening sections. Symptoms come on very gradually, not very marked: perhaps, frequent attacks of hæmaturia, albuminuria, pains about loins. Occasionally, enlargement of kidneys, so as to produce distinct tumours. Death from some complication, as rupture, or ultimately from uræmia.

Treatment. Puncture from behind peritoneum. Nephrotomy and drainage for simple cysts. Nephrectomy in large conglomerate cystic tumours.

RENAL INFLAMMATION.—See *Nephritis.*

RENAL PARASITES.—Four varieties of Entozoa may infest the kidneys:—(1) Hydatids, containing echinococci. Very much more rare than in the liver. Sometimes, renal hydatid cysts discharged with urine: perhaps with symptoms like those produced by passage of a calculus. Recovery may follow: or cysts may be discharged at intervals for years: or death occurs from rupture of parent cyst into parts around kidney, or from its exciting inflammation and suppuration. Opium, iodide of potassium and warm baths are remedies to be tried. If cyst attain a large size, puncture with a fine trocar may be justifiable. —(2) Distoma hæmatobium: cause of endemic hæmaturia of Egypt, &c. See *Hæmatozoa.*—(3) Tetrastoma renale: said to infest uriniferous tubes, but no instance of its occurrence known in this country.—(4) Strongylus gigas: very rare. One specimen in Museum of Royal College of Surgeons.—See *Entozoa.*

RENAL TUBERCLE.—Synon. *Tuberculous Pyelitis; Scrofulous Kidney.*—Much more commonly a secondary than a primary affection. In former case, seldom detected till after death: both glands involved. In latter, disease extends from kidney to ureter and bladder. Large tubercular cavities produced, with destruction of renal tissue. Hæmaturia an early symptom; sometimes repeated later. Urine contains pus, often in large amount, blood, and tubercular débris if ureter be unobstructed. Tubercle bacilli may often be detected in urine if dried on a slide and treated with aniline magenta stain and 25 per cent. solution of nitric acid. One or both kidneys may be affected. Symptoms, those of tuberculosis; with burning pains in loins, purulent and bloody urine, and rapid emaciation. Perhaps, renal tumour; owing to confluence of tubercular deposits, or to gradual distension of pelvis by retained urine and pus. Death occurs from exhaustion, in course of eighteen months: from progress of similar disease in other organs; or from uræmia.

Treatment. When kidney presents distinct tumour it is probably too late for operation; ureter, bladder, or opposite kidney probably infected. When kidney not appreciably enlarged, diagnosis as to which kidney affected only possible by catheterisation of ureters, or endoscope, to see where the pus comes from. Tubercular kidney has been successfully removed by abdominal nephrectomy.

RETINITIS.—From *Rete*, a net or web; terminal *-itis*. Inflammation of the delicate nervous membrane called the retina occurs as a sympathetic affection in the course of other ophthalmiæ. As a simple idiopathic inflammation it is exceedingly rare. It may be associated with renal disease, syphilis or diabetes. There is a *Pigmentary retinitis* which commences in childhood and is very chronic, attended with night-blindness and contraction of field of vision.

SYMPTOMS. Acute deep-seated pain in eyeball, extending to temples and forehead: great intolerance of light; diminution or loss of power of vision; frequent sensations of flashes of light. Pupil found contracted; iris loses its brilliancy and becomes motionless; vascularity of the sclerotic. Constitutional disturbance severe. High fever and delirium often present.—When acute symptoms have subsided the ophthalmoscope shows vessels of retina congested and varicose; transparency of retina impaired; while extravasations of blood may often be seen, owing to rupture of one or more vessels. In unfavourable cases, masses of black pigment are visible on choroid and retina: these tissues gradually get atrophied: total blindness results.

May be caused by exposure to vivid light—large fires, furnaces, &c. Light reflected from ground very injurious to retina, because the eyes cannot well be protected from it, hence pernicious effects of glare from snow, or from burning sands of tropical climates.

TREATMENT. Perfect rest in a darkened room. Application of cold lotions or of hot fomentations, according to the patient's feelings. Mild purgatives. Sedatives to relieve pain. Simple diet. Other treatment according to the associated disease. If of syphilitic origin, mercury or iodide of potassium, &c. If there is increased tension in the eye, physostigmine or, possibly, iridectomy. In pigmentary retinitis a long course of iron.

RETRO-PHARYNGEAL ABSCESS.—From *Retro*, backwards: Φάρυγξ, the pharynx; *Abscedo*, to form an abscess.—Result of acute or chronic inflammation of loose connective tissue between posterior wall of pharynx and muscles on anterior part of spine. When primary, often connected with tubercle or syphilis. Usually results from caries of the cervical vertebræ and with strumous diathesis. Sometimes follows severe fevers, impaction of false teeth, fish-bones, &c. More common in children than adults.

SYMPTOMS. Fever, nausea, restlessness, soreness of throat. Difficulty in swallowing and breathing. A fixed and retracted state of head; rigidity of muscles at back of neck. More or less ocked state of jaws; painful and difficult and drawling articuation. As painful deglutition increases, solids are refused: iquids regurgitate through nose. Spasmodic efforts at swallowing, as if there were food in gullet.—On examining fauces, a firm and projecting tumour is felt just beyond base of tongue. Death has occurred from convulsions ; from coma ; from tumour pressing pharynx forwards on epiglottis and rima glottidis, causing suffocation ; from abscess suddenly bursting, with inspiration of pus into trachea.

TREATMENT. Vertical incision with a bistoury : tongue to be pushed backwards and held down with left forefinger, and head held forward so as to facilitate escape of pus by mouth. Ammonia and bark, 371. Syrup of phosphate of iron, 405. Quinine, 379. Cod liver oil. Nourishing food. Malt liquors : wine.

RHEUMATISM.—*Ῥευματισμὸς*, a flux or looseness; *ῥευματίζομαι*, to be affected with looseness,—from *ῥεῦμα*, a humour floating in the body causing disease. There are two forms of rheumatism, the acute and chronic :—

1. **Acute Rheumatism.**—Synon. *Rheumatic Fever.*—A formidable disease, though rarely fatal, owing to the suffering it causes, the intensity of the fever, and the damage it so frequently inflicts upon the heart.—A superabundance of lactic (?) acid in the system is the supposed cause. Many theories as to its origin.

SYMPTOMS. Restless and fever, stiffness and aching pains in joints, following exposure to cold and damp. Pain quickly increases ; swelling and tenderness of one or more large joints ; high fever and constitutional disturbance. Temperature rises to 102°, in bad cases to 104°, or 105° : in fatal cases has reached 110° and 111° a few hours before death. Patient soon rendered a pitiable spectacle of helpless suffering. He dare not move ; is unable to sleep ; but delirium very rare ; pain in joints so agonising that weight of bedclothes cannot be borne ; skin bathed in sweat, of a disagreeable acid or sour odour ; pulse full, bounding, and quick ; usually constipation, sometimes diarrhœa ; tongue moist, but thickly furred ; and urine high coloured, acid, scanty, loaded with urates. Relapses very common.

Complications.—A tendency to metastasis, the inflammation suddenly leaving one part and reappearing in another. Most serious is when the pericardium or endocardium becomes affected, or when hyperpyrexia, which is sometimes attributed to cerebral rheumatism, sets in. Sometimes complicated with bronchitis, pleurisy, pneumonia. Disorganization of one or more of the affected joints rarely occurs.

When uncomplicated, average duration from twelve or sixteen to thirty days. If fatal, this result usually due to the cardiac affection or to hyperpyrexia.

TREATMENT. Venesection been recommended, but loss of blood is badly borne. Saline purgatives, 140, 141, 152, 155, 165, 169. Calomel and jalap. Opiates, in doses sufficient to relieve the pain. Powder of ipecacuan and opium, 213. Quinine.

Quinine and iodide of potassium. American hellebore. Guaiacum. Liquor potassæ. Sulphur. Citrate of potash, sometimes to extent of 480 grains in twenty-four hours. Lemon juice. Free blistering, excluding all drugs and other applications; a band of blistering fluid, about two inches deep, painted above and below affected joint; to be followed in a few hours by linseed poultice (Dr. Herbert Davies).

Most reliable remedies:—Salicylic acid or salicylate of soda, 20 grains every hour for six doses, repeated on the following day, then three times a day. Salicine. Opium. Large doses of the alkalies and their salts, as from 20 to 60 grains of bicarbonate of potash or soda, in an effervescing draught, every three or four hours. Colchicum, if urine continue loaded with lithates. Iodide of potassium, if disease remain stationary in one or two joints. Hot air or vapour baths, if perspiration be scanty. Tincture of perchloride of iron (ʒss every six hours). *During convalescence*:—Ammonia and bark, 371. Quinine and iodide of iron, 382. Mild preparations of steel, 390, 391, 394, 401, 403, 404. Cod liver oil, 389.

Diet:—At first low; slops and arrowroot. Beef tea; milk and lime water, 14; cream, and beef extract, 5. Light puddings; vegetables; white fish; arrowroot biscuits. Mutton, poultry, and beef not to be allowed too soon. Malt liquors, port wine, and sugar to be avoided.

Local Remedies:—To lie between blankets in preference to sheets. Most complete rest in bed to be enjoined: patient not even to sit upright in bed, or to leave it for any purpose. Wrapping affected joints in cotton wool and oiled silk. Hot alkaline fomentations. Hemlock poultices. Small blisters at a late stage. Iodine paint, 205. If the heart be irritable, large hot linseed-meal poultices. If there be effusion into pericardium, large blisters over cardiac region. Turpentine stupes.

2. Chronic Rheumatism.—Sometimes a sequel of rheumatic fever, but generally a separate constitutional affection. Very common in old age. The fibrous textures around the joints, or the fibrous envelopes of the nerves, or the aponeurotic sheaths of the muscles, or the fasciæ and tendons, or the periosteum are the parts which suffer.

TREATMENT. Attention to the general health, and to the organs of digestion. Sedatives to procure sleep.—Iodide of potassium, with tincture of serpentary or bark, 31. Liquor potassæ. Ammoniated tincture of guaiac, 43. Cod liver oil, 389. Quinine, with or without belladonna, 45, 386. Iodide of iron, 32. Ammonia and bark, 68, 371. Oil of turpentine, 50. Colchicum, 46. Sarsaparilla, 26. Corrosive sublimate, 27. Red iodide of mercury, 54. Arsenic, 52. Aconite, 330, 331. Sulphur, 43, 148. Hydrochlorate of ammonia, 60. Tincture of actæa racemosa, 320. Arnica. Morphia, chloroform, and Indian hemp, 317. Opium and ipecacuanha, 324. Subcutaneous injection of morphia, 314.

Sulphurous waters of Harrogate, Buxton, Bath, Woodhall. Sea air, and warm salt water baths. Alkaline waters of Vichy. Antacid springs of Carlsbad. Hot air or vapour baths. Alkaline baths. Sulphur baths.—Ventnor, Hastings, Rome, and Nice, are good winter residences for habitual sufferers.

Locally:—Blisters, 208. Iodide paint, 205. Belladonna and aconite liniment, 281. Chloroform and opium liniment, 282. Veratria ointment, 304. Powdered sulphur. Plasters of belladonna or opium. Acupuncture. Ironing the part, a piece of brown paper being placed between the skin and hot iron. Moxas. Application of a bladder of ice for a few minutes. Flannel next the skin. Faradization. Continuous galvanic current.

RHEUMATOID ARTHRITIS.—From *'Ρεῦμα*, a humour floating in the body causing disease; *εἶδος*, appearance; *ἄρθρον*, a joint, terminal *-itis*. Synon. *Rheumatic Gout; Chronic Rheumatic Arthritis; Nodose Rheumatism.*—A chronic inflammatory affection of the joints, not unlike gout in a few of its characters, somewhat resembling rheumatism in other points, but differing essentially from both. Frequently occurs in women at the climacteric, or when suffering from uterine or ovarian disturbance of function.

Symptoms. Pain, swelling, and stiffness of affected joints. In acute cases, disease comes on abruptly with fever and general disturbance; but usually the affection is chronic, commencing with languor, restlessness, loss of appetite, and vitiated secretions. The joints become stiff and painful; effusion into the synovial membranes causes them to appear swollen and distended, while limbs generally waste; and if hip, knee, or ankle be the parts affected, there is lameness. Fluctuation can sometimes be detected; or, a distinct kind of crepitus may be felt. A peculiar crackling of the joints on movement is appreciable to the patient. If the disease be of long continuance, a degree of rigidity may occur from thickening of the articular textures, equal to that produced by bony anchylosis; or the joint may become quite disorganised from a gradual wasting of the cartilages. In addition, the articulations become deformed; there are painful spasms in the muscles of the limbs, mental depression, general lassitude, dyspepsia with acidity of stomach, rest at night disturbed, every change in the weather felt, while owing to the languid circulation the patient suffers much from cold. The complaint always lasts for several months—sometimes for years.

Treatment. General health to be improved. Uterine functions to be regulated. Generous diet, with animal food. Claret, sherry, brandy, whisky, bitter ale. Warm clothing. Carriage exercise. Sugar, pastry, pickles, and cheese to be forbidden.

Sulphate and carbonate of magnesia, 141. Confection of sulphur. Sulphate of soda, 148, 153. Cod liver oil. Arsenic with quinine, iodide of potassium, steel, taraxacum, and colchicum, 31, 32, 46. 52, 381. Either of foregoing drugs separately, especially arsenic or phosphorus. Lemon juice. Mineral acids, 376, 378. Guaiacum, 43. Bark and serpentary, 375. Opium. Indian hemp. Aconite. Chloroform. Tincture of arnica. Leeches. Blisters. Mercurial or iodine plasters. Sulphur and flannel bandages. Aconite lotions. Friction or shampooing. Painting with iodine. Galvanizing.

Sulphur or alkaline baths, 121, 125. Arsenical baths, 128. Vapour or hot air baths. Harrogate waters; Buxton; Bath; Spa; Schwalbach; Aix-la-Chapelle; Aix-les-Bains; Wiesbaden; Wildbad or Baden-Baden; Carlsbad; Vichy; Strathpeffer.

RHINOLITHES.—From 'Ρίν, the nose; λίθος, a stone.—Concretions of phosphate or carbonate of lime, magnesia, and mucus, which occasionally form in one of the nasal cavities. Nucleus may consist of a shell, piece of pencil, bean, or any foreign body. Easily detected by sounding with a probe. Removal with forceps.—See *Ozæna.*

RHINORRHŒA.—From 'Ρίν, the nose; ῥέω, to flow. Synon. *Chronic Nasal Catarrh.*—Chronic inflammation of the nostrils, with hypertrophy of the mucous membrane, producing a constant discharge of mucus.—See *Ozæna.*

TREATMENT. Tonics. Free application of weak carbolic or eucalyptus spray.

RICKETS.—Synon. *Rachitis; Osteomalacia Infantum.*—A disease peculiar to childhood, as osteomalacia is to adults. Usually appears to commence about the fifteenth or eighteenth month after birth, when the child begins to walk. The bones as they grow remain soft and flexible, and enlarged at the ends; they bend under weight of body. The osseous tissue looks natural in structure, but is insufficiently impregnated with earthy salts. Strumous children of the poor mostly suffer.

SYMPTOMS. Pallor; imperfect digestion; child is restless at nights; profuse perspiration during sleep, especially about head and face. Ends of long bones enlarged. Beading of ribs at junction with cartilages. Physiognomy peculiar. Growth stunted. Head usually large; forehead prominent; fontanelles close slowly. Tonsils often enlarged. Chest narrow, with prominent sternum—*pigeon-breasted.* Spinal curvature. Pelvic deformity, so that in after-life parturition would be attended with great difficulty. Curvature of the limbs, especially of lower extremities (bandy legs). The deformed bones become firm after puberty.

TREATMENT. Attention to general habits, exercise, hygiene, and clothing. Animal food: milk: raw eggs: starchy food sparingly. Phosphate of lime. Phosphate of iron. Chemical food, 405. Cod liver oil. Walking to be forbidden. Light supports for spine, or lower limbs. Bathing with salt water. Friction. Sea air.

RINGWORM.—See *Tinea Tonsurans.*

RODENT ULCER. — From *Rodo,* to gnaw. Synon. *Cancroid; Jacob's Ulcer.*—Commences as a hard, irritable, and painful tubercle. Ulceration; the ulcer having hard margins, a dry glossy surface, and tubercles in or adjoining it. Tendency to spread slowly in every direction, completely destroying all adjacent textures—as muscle, bone, eye, &c. Most frequently situated on eyelids; next on nose or cheeks, scalp or vulva. Lymphatic glands not affected. General health often remarkably good, even when the ulceration has produced frightful disfigurement. Occurs equally in both sexes, after middle period of life. No affinity between rodent ulcer and lupus: former, more allied to epithelioma.

TREATMENT. A cure can be effected by thorough extirpation with knife or caustics. From a quarter to half an inch of surrounding tissues should be removed or destroyed (Butlin). Thermo-cautery or Bougard's paste preferable to knife in old or feeble cases: in either operation, anæsthesia should generally be employed. Opium. Cod liver oil. Nourishing food.

ROSEOLA.—Dimin. of *Rosa,* a rose. Synon. *Rose Rash; False Measles.*—A non-contagious inflammatory affection of the skin. Characterised by formation of numerous, small, separate, rose-coloured spots, which disappear on pressure. Accompanied by slight fever. Duration from one to seven days.

Roseola sometimes simulates measles, sometimes scarlatina. No coryza. Soreness and redness of fauces, with gastric disturbance, often present.—Roseola æstiva affects adults, especially women, in the summer. May arise in children from dentition. Eruption occasionally preceded by chills and smart fever.

TREATMENT. Simple salines. Plain diet. Lemonade. Warm baths. Sponging with vinegar and water. During teething, lancing of gums may be required.

RUBEOLA.—From *Rubeo,* to blush. Synon. *Rotheln; German Measles.*—Has been supposed to be a compound of measles and scarlet fever, but really a distinct disease. It is highly contagious. Incubation about ten days.

SYMPTOMS. Fever usually very slight, but occasionally high, lasts two to four days. Tongue furred; slight sore throat; little or no coryza. Eruption resembling measles, glands of neck usually enlarged.

TREATMENT. Rest in bed. Diluent drinks. Salines. Warmth. Colchicum has been recommended.—See *Measles.*

RUPIA.—From 'Ρύπος, filth; owing to the foulness of the affected parts. A non-contagious skin disease, a tertiary syphilide.

May be regarded as a modification of pemphigus occurring in debilitated constitutions, contaminated with poison of syphilis. Characterised by eruption of flattened vesicles or bullæ; containing at first serous fluid, which soon becomes purulent or sanguinolent, and then concretes or dries into dark and black and rough scabs. Margins of surrounding skin inflame; serum continues to be poured out; incrustation increases in circumference and thickness until it somewhat resembles the shell of a limpet. As crusts fall off they leave circular ulcers, which often only cicatrize after lapse of many weeks. Loins and lower extremities most frequently affected. Duration varies from two or three weeks to several months. Seldom any danger, unless a great deficiency of vital power be present.

TREATMENT. Cod liver oil. Generous diet: milk; wine or malt liquors. Warm baths. Change of air. Iodide of potassium and bark, 31. Corrosive sublimate, 27. Red iodide of mercury, 54. Mercurial vapour baths, 131.

SAPRÆMIA. — Synon. *Traumatic Fever; Septic Intoxication; Septic Fever.*—A fever caused by the circulation in the blood of an alkaloid product of decomposition; it ceases directly the ource of absorption of the product is removed. Cause: foul wounds, traumatic or surgical, pent up discharges, &c.

SYMPTOMS. Headache, nausea, vomiting, high temperature, ll of which disappear on thorough cleansing and drainage of wound. If no such relief is afforded, diarrhœa, delirium, coma, nd death may follow.—See *Septicæmia.*

TREATMENT. Dress and drain wound on antiseptic principles. aline purge (except in some cases of abdominal injuries and perations), afterwards quinine or other tonics.

SCABIES.—From *Scabo*, to scratch. Synon. *Psora; Itch.*—A ontagious troublesome skin disease, due to the *Acarus scabiei*, ttended with great itching: irritation increased by warmth. ssential feature of eruption,—minute vesicles at intervals with he burrows of the acarus. From the irritation may result apules or vesicles, or, especially in children, pustules; vesicles r pustules ruptured by scratching, causing excoriations. Most ommon about flexures of joints, especially between fingers, on rists, and on abdomen.

Due to an animal parasite,—the *Acarus scabiei* or *Sarcoptes minis.* Female larger than male; after impregnation she urrows beneath epidermis, forming burrows or cuniculi, in hich her eggs are usually deposited. Males wander over surface epidermis.

TREATMENT. Thorough washing with warm water and soft soap. ulphur ointment, ʒss in ℥j, put on flannel underclothing, and peat bath and ointment after forty-eight hours. If itching ntinues, repeat a third time, or storax may be used instead of lphur. Unguentum styracis (ʒij to ℥j).—Contaminated clothes be fumigated with sulphurous acid gas or boiled, ironed with very hot iron, or exposed to a temperature of over 212° F.; or sprinkled with powdered sulphur.

SCARLET FEVER.—This disease, known also as *Scarlatina*—from the Italian *Scarlatto*, scarlet—is an infectious fever, characterised by scarlet efflorescence of skin, and mucous membrane of fauces and tonsils; the efflorescence commencing on second day of fever, and declining about fifth. Often accompanied by inflammation of throat and sometimes of submaxillary glands and kidneys. Like measles, essentially a disease of childhood; but more to be dreaded. As a rule, scarlet fever occurs only once; in the event of a second attack there is often no rash, little or no throat affection, and the disorder runs a favourable course.

Three forms:—Scarlatina *simplex*, in which skin is most affected; scarlatina *anginosa*, in which both skin and throat are severely implicated; and scarlatina *maligna*, in which there may be death within one or two days with cerebral symptoms, or the fever may have an adynamic type; rash dusky, tongue dry, throat little swollen, but tending to slough.

SYMPTOMS. In *scarlatina simplex*, after a latent period of from four to six days, there is sickness, with fever, lassitude, and headache. On 2nd day, eruption appears in form of numberless minute dots on upper part of chest, which coalesce into general rash of a bright scarlet hue. This terminates by desquamation of the cuticle; which begins about the end of 5th day. While the rash has been appearing, the mucous membrane of mouth, fauces, and tonsils has also been affected. Tongue covered with a thick white fur, through which red elongated papillæ project; as the fur clears off, the organ presents a strawberry appearance.

In *scarlatina anginosa*, more violent symptoms. Greater fever, vomiting, sleeplessness, delirium, prostration. The fauces, palate, uvula, and tonsils get swollen, and covered with an exudation of coagulable lymph. Nasal mucous membrane frequently affected, swollen, and red, and there is purulent discharge from nose. Sometimes there is diffuse inflammation of cellular tissue of neck, which is swollen and of brawny hardness. The eruption may be delayed to 3rd or 4th day, and may come out in scattered patches. With its fading on 5th or 6th day, the fever and inflammation of throat begin to abate. Severe inflammation of the serous and mucous membrane to be feared.

In *scarlatina maligna*, the fever assumes a malignant or typhoid character. Great cerebral disturbance. Convulsions. Unconsciousness. Urgent prostration. Low muttering delirium. Tongue dry. Throat of dusky red, sometimes sloughing. The rash comes out late, disappears in a few hours, and is renewed several times. Often a fatal termination on 3rd or 4th day, sometimes earlier.

In all forms the urine to be examined daily; as to quantity, reaction, and freedom from albumen.

Sequelæ:—Ulceration and enlargement of tonsils. Strumous ulcers. Ophthalmia. Scrofulous enlargements of cervical glands.

Otitis and abscesses in the ears, which may cause death months or years afterwards by meningitis, cerebral abscess, pyæmia, &c. Diseases of the scalp. Acute rheumatism. Cardiac inflammation. Scarlatinal vaginitis. Anasarca, dropsy of the serous cavities, and acute desquamative nephritis with albuminuria; to be feared as much in mild, as in severe cases. Uræmia.

TREATMENT. No *prophylactic* remedy known.—The *simple form* only requires strict isolation in the bedroom till desquamation is complete (six weeks); warm bath; proper clothing; spare diet; and attention to the bowels. Care to be taken lest the escape of the poison by the skin be checked, and thrown back upon the kidneys. Simple saline mixture, or a drink of vinegar and water. Sponging of skin with camphor and warm water. Daily inunction of entire surface with hot carbolized lard, or vaseline with oil of eucalyptus or thymol.

Scarlatina Anginosa:—Saline effervescing draughts. Carbonate of ammonia, 361, 364, 371. Salicylic acid with liq. ammoniæ acetatis. Cold or tepid sponging with vinegar and water. Wet sheet packing, 136. Cold affusion, 134. Inunction with antiseptic oil or vaseline daily. Good beef tea. Nourishing soups. Milk: cream. Raw eggs. Port wine. Ice to suck.

Malignant Scarlet Fever:—Demands stimulants from commencement. Carbonate of ammonia. Bark. Port wine. Brandy. Quinine. Chlorine, 77. Hydrochloric acid and ether, 365. Ice. Acid drinks; or chlorate of potash drink, 560. Cold affusion, 134. Heat and moisture applied over glands of neck. Gargle of carbolic acid or Condy's fluid. Tannic acid, iodine, or nitrate of silver as local applications. Spraying with antiseptic solutions. Essence of beef, 2. Restorative soup, 3. Cream. Raw eggs. Brandy and egg mixture, 217.

When Dropsy supervenes:—Compound jalap powder. Elaterium. Tincture of perchloride of iron. Ammonio-citrate of iron. Quinine. Mineral acids. Warm baths. Hot air or vapour baths. Nourishing food. Abscesses to be opened.—See *Rheumatism*; *Nephritis*, &c.

SCIATICA.—From 'Iσχίον, the hip.—Acute pain in sciatic nerve. See *Neuralgia*; *Rheumatism*.

SCIRRHUS OR HARD CANCER.—From Σκιῤῥὸς, indurated. Synon. *Hard Spheroidal-celled Cancer*.—See *Cancer*.

SCLEREMA NEONATORUM.—From Σκληρὸς, hard or stiff. Synon. *Algide Œdema* (from *Algeo*, to be cold; and οἰδέω, to swell).—A peculiar disease of new-born infants, not uncommon in France, but rarely met with in this country. Consists of partial or universal induration of subcutaneous areolar tissue, with serous effusion. Usually fatal.

SYMPTOMS. Somewhat resemble those of ordinary anasarca. Usually occurs within ten days of birth; mostly in feeble or premature children. The skin assumes a dry, stiff, waxy, yellowish appearance: it gradually gets distended and unyielding, so that the infant is said to be skin-bound. Temperature of body gets reduced. Infant appears prostrated, unhealthy, perhaps jaundiced, and as if dying from exhaustion. Indications of distress, restlessness, whining cries, refusal of food, feeble pulse, laborious respiration. Gastric and intestinal disturbance apt to set in. Death often occurs from asphyxia, within a week from commencement of attack.

Treatment. Warm baths. Friction with warm flannels. Body to be enveloped in cotton wool. Port wine with a few drops of tincture of bark. Ether. Acupuncture. Solution of raw beef in distilled water, 2. If child cannot suck, mother's milk to be drawn off in a spoon and given frequently. Goat's milk. Cream.

SCLEROTITIS.—From *Sclerotica*, the firm fibrous tissue of the eyeball; terminal *-itis*. Except an annulus round the cornea the sclerotic is extra-vascular. The sclerotic may become softened and thinned, and bulge around the cornea, generally above, *sclerotic staphyloma*.

So-called rheumatic ophthalmia, or sclerotitis, is nearly always *glaucoma*.

SCROTAL ELEPHANTIASIS. Enormous hypertrophy of the scrotum. In many cases the tumour has reached below the knees. Very rare in temperate climates. There is no cure but by removal.—See *Barbadoes Leg*.

SCROTAL ŒDEMA.—Simple œdema of scrotum is usually an accompaniment of general anasarca, especially in kidney disease. If it cause distress, relief may be given by acupuncture, but sloughing is apt to follow. The connective tissue of scrotum may rapidly become infiltrated with urine when this becomes extravasated, or with serum as a result of erysipelas. Great constitutional disturbance: fatal sinking sometimes occurs early. Sloughing apt to take place. Tonics and stimulants must be freely employed. Scrotum to be well supported by small pillows. Fomentations. Care must be taken not to mistake œdema from extravasation of urine for erysipelatous inflammation. —See *Erysipelas*.

SCURVY.—Synon. *Scorbutus; Land Scurvy; Sea Scurvy.*—A complex morbid state, caused by long-continued privation of fresh succulent vegetables or fruits, or their preserved juices.

Symptoms. Sallow dusky hue of countenance, and of skin generally. Swollen, spongy, pallid or livid gums. Fetid breath. Debility. Anæmia. Deafness. Dyspnœa. Sloughing of gums. Loosening of the teeth. Hæmorrhage from gums, nose, mouth, stomach, intestines. Extensive ecchymosis. Brawny swelling in hams, and stiffness of legs. Want of energy: despondency. Diarrhœa. Dysentery. Dropsy. Exhaustion. Thrombosis.

Treatment. Lemon or lime juice. Oranges. Salads. Watercresses. Potatoes. Pickles. Broccoli. Cabbage. Vinegar. Horse-radish. Wood sorrel. Common sorrel. Milk. Wine or beer. Spruce beer, 7. Fresh meat and fish. Raw meat. Fresh blood. Citric acid. Iron. Catechu. Gallic acid. Tannic acid lozenges. Salts of potash with vegetable acids, but not with mineral acids. Opium. Pure air. The recumbent posture. Digitalis. Stimulants.

SEPTICÆMIA. A general infection of the whole system by a rapidly increasing poison, probably a parasitic micro-organism. This poison multiplies in the system. Secondary abscesses do not form.

SYMPTOMS. The admission into the blood of septic poison as in dissecting, in the course of operations, and in dressing foul wounds, traumatic or surgical, is followed in about two or three days with headache, steady rise of temperature (falling slightly in the morning) to 103° or 104° or higher, rapid pulse, quick respirations, tendency to tympanites, sometimes diarrhœa, tenderness about spleen. Symptoms do not disappear at once on careful dressing and drainage of wound True acute septicæmia very fatal. Perspirations, green or black vomit, delirium, suppression of urine, and death. Temperature falls and pulse becomes more rapid before death.

TREATMENT. Dress wound properly and freely wash it with antiseptics, lest fresh infection occur. Ice-cap or wet pack (towels soaked in cold water and kept constantly wet), if temperature above 102°; keep on ice-cap till temperature falls to normal. Feed by bowel; enemata of beef tea and quinine. Introduce rectum-tube to relieve tympanites. Ammonia when asthenia is marked. Watch pulse, as dangerous depression sometimes follows stimulation. A chronic form of septicæmia is ometimes observed.—See *Pyæmia; Sapræmia.*

SIMPLE CONTINUED FEVER.—Synon. *Febricula; Ephemera* when only lasting a day).—A mild disease, having a variable duration of from one to ten days.

SYMPTOMS. Patient suddenly seized with lassitude, nausea, norexia, chilliness, and pains in back and limbs. After a few ours—heat of skin, rapid pulse, headache, thirst, constipation, and scanty urine. Perhaps slight delirium. Symptoms aggravated at night. About fourth day, or later, a remission; critical sweating or diarrhœa. Convalescence often somewhat slow.

TREATMENT. The indications are:—(1) To moderate, when ecessary, the violence of febrile excitement by saline laxatives, est in bed, antipyrin, and low diet. (2) To support the powers f the system, as soon as they begin to flag. (3) To obviate local inflammations and congestions. And (4) to relieve any urgent mptoms if they arise.

SINGULTUS.—From *Singultus*, a sobbing, Synon. *Spasmolygus; Hiccup.*—See *Hiccough.*

SLEEPLESSNESS.—Synon. *Insomnia* (from *In*, priv.; *somnus*, sleep); *Pervigilium* (from *Pervigilo*, or watch or to be awake all night). There may either be difficulty of getting to sleep at all, or a short sleep on first getting into bed, and then extreme wakefulness.

Often a premonitory symptom of insanity. Commonly present in mania, aggravating the symptoms. Desire for sleep often banished in the insane: sometimes they are afraid to sleep because of frightful dreams and visions. Sleep prevented by exciting passions; mental anxiety; many acute diseases; dyspepsia; imperfect action of liver; constipation; diseases of heart and large vessels; pregnancy; jaundice, though sometimes where blood is much poisoned there is a tendency to excessive drowsiness. Medicinal doses of strychnine, or nux vomica, will often cause bad nights.

TREATMENT. Daily exercise in open air. A digestible diet, such as will not favour production of acidity or flatulence. Avoidance of tea and coffee in after-part of day. Dinner at one or two o'clock in afternoon, with light supper at night. Bedroom to be quiet, well-ventilated, warm. Bed to consist of mattress, without too many heavy blankets. Some nervous subjects can only sleep with head quite low, and lying on face with arms folded underneath.

When there is debility, a small cup of strong, hot beef tea, or a tumblerful of port-wine negus, or mulled claret, or white-wine whey the last thing at night. A pipe of mild tobacco often unobjectionable.—Where skin gets hot and dry, a tumblerful of cold water or soda water on going to bed. Rapid sponging of body with tepid water. Wet-sheet packing, 136. Warm foot bath. A hot-water bottle in bed draws the blood from brain to extremities. Wet compress over the eyes.

Removal of any physical cause for wakefulness. Aperients if there be constipation. Alteratives and laxatives if stools be unhealthy. Bismuth, or soda, if there be heartburn or acidity. A rag dipped in cold water, or a tight band round forehead, if there be headache. In some acute diseases, a bladder containing ice to head.

Chloral, henbane, 325, 337. Stramonium and henbane, 323. Hop, &c., 325. Indian hemp and henbane, 337. Morphia, chloroform, and Indian hemp, 317. Sulphonal. Opiate enemata or suppositories, 339, 340. Hypodermic injection of morphia, 314. Codeia. When insomnia is due to nervous irritability, bromide of potassium, 42. Mesmerism. Hypnotism.

SMALL-POX. Synon. *Variola.*—A continued infectious fever, attended with an eruption. Due to absorption of a specific poison. The disease would probably become extinct, were vaccination universally and efficiently performed.

SYMPTOMS. This disease goes through four stages—that of incubation, primary fever, eruption, and secondary fever.

The period of latency or incubation lasts twelve days. Then there is lassitude, rigor, headache, fever, *vomiting*, and well-marked muscular *pains in back and loins*. These symptoms succeeded at end of forty-eight hours by eruption of small red pimples, which in course of a week become vesicular, inflame and suppurate. In many instances accompanied by a similar affection of mucous membrane of nose and mouth; generally by soreness of throat; in some, by swelling and inflammation of subjacent areolar tissue, occasionally by marked irritation of nervous system. When vomiting and pain of back are violent they are generally precursors of a severe attack.

About the second day erythematous or hæmorrhagic rashes sometimes appear and last about two days when the early pustular eruption is developing.

Peculiar eruption of pimples or papulæ begins to show itself on commencement of third day of fever, appearing in following order:—First on face, neck, and wrists; secondly on trunk; and lastly on lower extremities. The papulæ have at first a hard shotty feel, then present vesicles on the summit which gradually expand laterally to about diameter of split-pea, are flat and depressed in the centre or umbilicated. On eighth day of disease an inflammatory areola forms round vesicles, and contents become cloudy and then purulent. Vesicles thus gradually ripen into pustules, suppuration being completed by ninth day of eruption; at which time pustules break, and crusts or scabs form. In four or five days more these scabs are falling off.

The severity of the disease usually bears a direct relation to quantity of eruption. When pustules are few, they remain distinct, and separate from each other; when very numerous, they run together, coalesce, and lose their regularly circumscribed circular form. Hence, a division of small-pox into—variola *discreta*, and variola *confluens*. Former seldom attended with danger; latter never free from it. Eruption on face may be confluent, while it is scanty elsewhere; still the disease is of confluent kind. Sometimes, pustules so numerous that they touch each other, but do not coalesce; disease then said to be of *cohering* or *semi-confluent* form. Sometimes the pustules grouped in clusters and the name *corymbose* applied. If, in confluent cases, symptoms of malignancy and putrescency are added, the disease becomes *malignant small-pox*,—a most formidable affection. Occasionally after initial symptoms, pain in back, vomiting, and fever, a rubeoloid eruption and later minute petechiæ which increase in number and size, and form large patches of ecchymosis: hæmorrhage takes place into conjunctivæ, and from bladder, bowel, &c., and death occurs on 4th or th day; no characteristic eruption or only a few scattered papules or vesicles having appeared. This *hæmorrhagic small-pox* is almost invariably fatal.

The greatest difference between distinct and confluent forms is in the *secondary fever*; slightly marked in first, intense and perilous in second. Sets in usually about eleventh day of the disease, or eighth of eruption, and occasionally at once proves fatal; the system being overwhelmed by virulence of the poison. During its course, troublesome complications may arise,—as erysipelas, swelling of glands in groin and axilla, phlebitis, septicæmia, glossitis, pleurisy, pneumonia, ulceration through cornea, suppuration of ear, conjunctivitis, &c.

In *Modified Variola* in vaccinated individuals fever slight, eruption appears early and hurries through all stages; may never be umbilicated; often mistaken for chicken-pox.

No *contagion* so powerful or certain as that of small-pox; infection lasts from end of latent period until every crust has fallen off and skin cicatrized. One attack exhausts susceptibility of system to future influence of the poison, as a rule. Variola occurring in persons unprotected by inoculation or vaccination is fatal on average to one in every three. When variolous matter is introduced into skin—*inoculated small-pox*—disease is in all respects of a mild nature. Practice of inoculation, now illegal.

TREATMENT. In simple cases the less drugs are used the better. Patient to be isolated and kept quiet in bed; in a well-ventilated room, free from carpets, curtains, &c. Some disinfectant to be employed,—iodine very good, 81. Diet,—arrowroot, gruel, weak beef tea, tea with milk, ripe fruits. Lemonade; barley water; plain water; raspberry vinegar and water; soda water; ice. Tepid sponging. Wet sheet packing where there is high temperature, irritability and sleeplessness, 136. Change of linen once a day. Mild saline laxatives, 139, 141, 155, 169. Opium or henbane, 315, 318, 325, 340: provided there be no fear of mucus accumulating in the bronchi and threatening suffocation. Good broths, wine, ether, bark, &c., when maturation of pustules proceeds tardily. Complications to be palliated; antiphlogistic remedies injurious.

In secondary fever:—Mild laxatives, if necessary:—Effervescent citrate of magnesia; compound rhubarb powder. Astringents, if there be diarrhœa. Sedatives, once or twice daily, if there be restlessness. Nourishing food; pounded meat in beef tea, good soup, milk or cream, raw eggs. Alcoholic stimulants, in proportion to the depression. When temperature runs high cold bathing. When patient appears to be poisoned by absorption of septic material from pustules, continuous immersion in bath kept at temperature of 98° to 100° may save life.—If any boils or abscesses form, early incision.

For sloughy and gangrenous sores:—Quinine, 379. Bark and nitric acid, 376. Ale, wine, or brandy. Milk: pounded beef. Water bed.

To prevent pitting:—External application of olive oil, or vaseline, with carbolic acid or eucalyptus, &c. Glycerine and rose water (equal parts). Lime liniment. Nitrate of silver. Puncturing the pustules. Collodion. Gutta percha and collodion.

Mercurial ointment. Tincture of iodine. Sulphur. Linseed or yeast poultices. Water dressing. Oxide of zinc ointment.

SPANÆMIA.—From Σπανὸς, thin or poor; αἷμα, blood. Thin or poor blood: a diminution in the quantity of red corpuscles.—See *Anæmia.*

SPERMATORRHŒA.—From Σπέρμα, seed; ῥέω, to flow. Synon. *Profluvium Seminis; Pollution.* A deranged state of mental and bodily health, in which the patient is alarmed and depressed in consequence of involuntary emissions of semen. The direction of the mind to the sexual organs aggravates the nervous irritability, increasing the secretion of seminal fluid and hurrying its discharge. The mind thus continually multiplies the sources of its own misery (Paget). Masturbation the most common cause.

SYMPTOMS. Nocturnal emissions may be infrequent, or occur three or four times weekly. General weakness, lumbar pains, absence of mind, belief in imaginary slights, &c. Fear of impotence often so great as to cause impotence when coitus is attempted, or to induce the patient to commit suicide. The affection is often closely associated with imbecility and melancholia; female members of patient's family often hysterical. Existence of any special lesion of the genito-urinary tract doubtful: slight congestion of prostatic urethra.

TREATMENT. Moderate mental and bodily work. Cheerful society. Solitary habits greatly aggravate this affection. Avoidance of obscene works of quacks, sham medical museums, vicious literature. Also it is best that patient should not study any medical or scientific works referring to his complaint. Early rising. Cold bath (unless weak), nourishing unstimulating diet, avoiding alcohol and tobacco. No supper. Aperients. Encourage opening of bowels at night, using a cold-water enema occasionally. Hard horsehair mattress, without too much bedclothing. If patient is wakeful, bromides. If emissions take place when patient lies on his back, a cotton-reel to be tied over middle of spine at night. If scrotum lax, use of suspensory bandage. Careful ablution of glans penis to remove irritating secretion of sebaceous follicles.

If prepuce long, circumcision. Rectal irritation removed. Treat symptoms of dyspepsia according to case. Give tonics. Caustic applications to urethra or prostate of doubtful benefit. Never speak lightly to patient about his case, but gain his confidence so that he may obey advice.

SPINA BIFIDA.—Synon. *Spina,* the spine; *bifida,* cleft; *Hydrorachis Congenita.* A congenital deficiency of the posterior laminæ and spinous process of one or more vertebræ; owing to which there is undue distension of membranes of cord with cerebro-spinal fluid. May exist in cervical, dorsal, lumbar, or sacral region: most common in lumbar. The sac may consist of dura mater and arachnoid (*spinal meningocele*), or may include the spinal cord and nerves spread out over its wall, with which they are intimately blended (*meningo-myelocele*), or the central canal of the cord may be distended, the cord being spread over the wall of the sac (*syringo-myelocele*). These forms not distinguishable during life, hence the use of knife or ligature is unjustifiable.

SYMPTOMS. A tumour is formed, varying in size from a walnut to a child's head. There is fluctuation : swelling most tense when child is held upright : swelling semi-transparent, or skin may be unaffected, or congested and blue. Prognosis unfavourable, if complicated with hydrocephalus; if there be paralysis of bladder or rectum and lower extremities; if the tumour threaten to burst by increasing in size. When only two or three upper lumbar vertebræ are affected, the spinal cord seldom deviates from its course and only the posterior spinal nerves have any connection with the sac. If tumour occupy part of lumbar and part of sacral region, the cord itself and its nerves will almost always be found in close contact with the sac. The disease is not necessarily fatal.

TREATMENT. If general health be good, and tumour small, interference will be unnecessary, beyond protecting the growth by a piece of leather or gutta percha moulded to the part Where growth is rapid, tapping may defer a fatal result. Puncture at side of tumour, and only draw off a drachm of the fluid with a fine trocar and cannula of a size that will allow iodo-glycerine to pass through. Half a drachm of Morton's solution : Iodine gr. 10, iodide of potassium, gr. 30, glycerine, ʒj ; to be injected without allowing the contents of sac to escape, and repeated every two or three weeks. Puncture to be sealed with collodion. Danger of tapping arises from drainage of cerebro-spinal fluid and septic meningitis which extends to brain. The smaller the tumour for injection the better, therefore delay is disadvantageous.

SPINAL CURVATURE.—The causes of spinal curvature are :—Peculiar avocations, causing the muscles on one side to become unduly developed and powerful—*e.g.*, habitual use of right arm in blacksmiths. Constant assumption of an unnatural attitude—*e.g.*, nurses carrying children always on one arm ; repeatedly standing on right leg with left knee somewhat bent. Adhesions after pleurisy with contraction of one side of chest. General weakness, producing a relaxed and flabby state of all the tissues ; or a deficiency of earthy matters in the osseous system, so that there results a loss of equilibrium between the resistance of spinal column and weight of upper part of body—*e.g.*, curvature from rickets, and destruction of the bodies of the vertebræ by caries (*Pott's Disease*); or it may be congenital.—There are three principal varieties :—*Lateral Curvature*, or *Scoliosis*, the convexity being to either side, but usually to the right ; *posterior curvature*, or *Cyphosis*: and *anterior curvature*, or *Lordosis*.

1. **Lateral Curvature.**—Synon. *Scoliosis.*—The most common form. Appears chiefly in young women between the ages of ten and eighteen; who are said to *outgrow their strength—i.e.*, the wants of the system are insufficiently supplied owing to imperfect assimilation of food, too little out-door exercise, and inattention to position while standing or walking. Its occurrence favoured by myopia, leading to constrained position in writing, or by one leg being shorter than the other. May follow pleurisy.

SYMPTOMS. One shoulder observed to be higher than the other: together with *a growing out* of one scapula. While one shoulder is high, the other is unduly depressed. So one hip projects, while the opposite curves inwards. On examination the vertebral column is found to be curved: in double lateral curvature it is twisted like the italic *f*. As the thoracic and abdominal cavities are more or less deformed, the play and free movements of the viscera get impeded. If there be difficulty in taking full inspiration, dyspnœa will be present. The action of the muscles of the trunk is impaired. General health suffers. Pain in side, from pressure on the nerves. In curvature from rickets there is also distortion of the limbs: patient's aspect rickety.

TREATMENT. Maintenance of general health at highest point of efficiency. Animal food: milk; raw eggs. Cod liver oil. Sea air, and baths. Quinine and iron, 380, 382. Phosphate of iron; chemical food, 405. Strengthening of muscles and ligaments which act on vertebræ by frictions, with stimulating liniments, cold douche, massage. Rest. Supine or prone recumbency; suspension; poroplastic jacket. Carefully devised gymnastic exercises. Removal from spinal column, by proper apparatus, of such weights or forces as tend to keep the various segments of spine in an unnatural relation to one another.

2. **Posterior Curvature.**—*Cyphosis;* Κυφὸς, bowed forwards.—Chiefly affects the cervical and dorsal regions. May occur in infancy and generally occurs more or less in old age. The muscles and ligaments which keep the column erect become relaxed. In rare cases there is disease of bodies of vertebræ. The anterior portions of vertebræ and intervertebral fibro-cartilages become somewhat absorbed or atrophied by pressure, and so become wedge-shaped. The round back produces flattened chest, which may impede the action of lungs and heart.

TREATMENT. As above. If short-sighted, spectacles.

3. **Anterior Curvature.**—Synon. *Angular Curvature; Lordosis.*—Pure lordosis, without caries, is seen in hip-joint disease. True angular curvature is associated with some constitutional affection (scrofula), producing rarefying ostitis of bodies of vertebræ. As bodies destroyed, spines project backwards, forming a prominent angle. As many as five or six vertebræ, with the intervertebral substances, may be affected. More frequent about mid-dorsal region than elsewhere. Often follows scarlet fever or whooping cough; may be traceable to injury.

SYMPTOMS. General indications of scrofula. Attitude, expression, seat of pain, all offer valuable indications in active spinal caries of children. Weakness, coldness, and numbness of legs, with twitchings and spasms. Tenderness or dull aching pains, according to the seat of mischief. Tightness of chest, with more or less dyspnœa. Occasionally, formation of abscesses. In cervical caries, post-pharyngeal abscess; in dorsal or lumbar caries dorsal or lumbar (psoas) abscess sometimes burrow and form mediastinal, gluteal, and other abscesses. Subsequently, in some cases, if cord is pressed on, paraplegia with paralysis of bladder and rectum. Exhaustion and hectic. Under favourable circumstances, disease gets arrested; bones collapse, anchylosis occurs, and pus becomes absorbed; patient recovering, but with incurable deformity. Sometimes sudden death; owing to diseased bodies of vertebræ giving way and crushing spinal cord, or from occurrence of dislocation of odontoid process of axis in consequence of ulceration and destruction of its ligament.

TREATMENT. *Perfect rest* in horizontal position is indispensable. Use of a reclining couch, so shaped as to keep the trunk perfectly quiet. A plaster bandage applied over the entire trunk while the spine is extended (Sayre). A stiff bandage, or pair of stays, extending from occiput to hips, to insure rest. Any active attempts to remove deformity will altogether prevent a cure of the disease, and is dangerous. In cervical or high dorsal caries, a leather cervical collar (E. Owen). Pain to be relieved by belladonna or opium plasters: issues, setons, blisters, or leeches worse than unnecessary. Abscesses to be opened antiseptically when they point. Improvement of general health, by good diet, cod liver oil, phosphate of lime, bark, or steel. During convalescence, mechanical support to the trunk judiciously applied.

SPINAL HÆMORRHAGE.—Synon. *Apoplexy of the Cord; Paralysis from Effusion of Blood into Spinal Canal or into Substance of Cord.*—More rare than cerebral hæmorrhage. Arises from injury; acute inflammation of cord or membrane; fatty degeneration of coats of vessels; caries and other disease of vertebræ. —Blood poured out external to dura mater; or between membranes; or into grey portion of cord. Death may happen at once; or after a variable interval from chronic softening of nervous substance.

SYMPTOMS. Vary according to seat of ruptured vessels. Acute and sudden pain in back, sometimes in head. Blood effused between the membranes, gravitates to lowest part of spinal canal: hence, paralysis which gradually extends upwards. Often, severe convulsions. Difficult breathing when there is pressure on upper part of cord. Heart's action depressed. Surface pale and cold. Consciousness unimpaired.—Effusion into substance of cord produces sudden paralysis in all parts supplied with nerves coming off below its seat; where hæmorrhage is very slight, loss of power occurs slowly after lapse of some hours. Secondary changes accompanied by spastic rigidity of limbs; increased knee-jerk and ankle-clonus. Later, cystitis and bedsores.

TREATMENT. Further effusion to be checked by perfect repose; application of ice along spinal column. Patient to be placed on his side. Cupping. Ergotin. Sedatives if pain severe.

SPINAL MENINGITIS.—From *Spina*, the backbone: Μῆνιγξ, a membrane; terminal *-itis*. Synon. *Leptomeningitis; Pachymeningitis.*—Acute inflammation of membranes of cord not a common disease. It may terminate in resolution, effusion of serum, softening of cord, or suppuration. When acute, may be associated with disease of cerebellum or of cerebral membranes; when chronic, mostly connected with caries of vertebræ, or following puncture of spina bifida. Mechanical injuries, and exposure to wet and cold in rheumatic subjects, the most frequent causes. May be acute or chronic.

SYMPTOMS. Fever and sleeplessness. Acute burning pains along spine, extending into limbs; greatly aggravated by motion of limbs, but especially of spinal column and by pressure; often simulating rheumatism. Rigidity, or tetanic contraction of muscles of neck and back. When upper part of cord affected, and membranes of base of brain, the head generally thrown back. Feebleness of limbs, perhaps to extent of paralysis of lower extremities: loss of power extends upwards as effused serum increases in quantity. Suffocating sensations: feeling of constriction in neck, back, and abdomen. Retention of urine. Priapism. Obstinate constipation, sometimes succeeded by diarrhœa. Great prostration, if morbid action proceed: sometimes, feverish delirium and coma. In acute cases irritative symptoms predominate, in chronic those of compression.

Cerebro-spinal meningitis occasionally occurs as an epidemic: inmates of workhouses, soldiers in overcrowded barracks, liable to it.

TREATMENT. Perfect rest. Iodide of potassium and aconite, 31. Corrosive sublimate and sarsaparilla, 27. Red iodide of mercury, 54. Aconite and guaiacum, 330. Chloral. Bromides. Morphine. Opium to relieve pain. Henbane. Belladonna. Castor oil. Calomel and jalap.—*Locally.*—Lint, saturated with belladonna or aconite liniment, and oiled silk. Linseed poultices. Fomentations with poppy heads and chamomile flowers. Ice. Blisters. Tartarated antimony ointment. Painting of spine with diluted iodine liniment. Oleate of mercury may be rubbed into spine.

To prevent the spread of epidemic cerebro-spinal meningitis, removal from unhealthy locality is necessary.

SPINAL MYELITIS.—From Μυελόν, marrow; terminal *-itis*. Inflammation of the substance of the cord; rarely diffuse;

usually only a segment involved, and not entire length. May be due to injury or to disease of vertebra. Syphilis a common cause, when confined to anterior cornua of grey matter, *poliomyelitis*.—See *Paralysis*.

Symptoms. Slight fever. Pain in back, of dull aching character, gradual loss of power in lower limbs and in body below seat of disease, and later also of sensation. Early loss of control over bladder and rectum. Sensation as of cord round body. Tenderness on percussion of spine, and pain on application of hot sponge over affected segment. Reflex action often exaggerated in lower extremities, and involuntary starting of limbs common. Sometimes the paralysed lower extremities are flaccid, and others very rigid; this latter condition, *Spastic paraplegia*, believed to indicate usually, but not invariably, descending degeneration of the lateral columns. Patellar tendon reaction often exaggerated and ankle-clonus marked. Tendency to formation of bedsores.

Treatment. Remove any known cause if possible, such as injury or disease of vertebræ. Iodide of potassium. Iodide of mercury, $\frac{1}{24}$ gr.—these especially if disease of syphilitic origin. Belladonna. Henbane. Locally, blisters; cautery. Iodine; fomentations. Great attention to be given to bladder to prevent accumulation and decomposition of urine and inflammation of bladder. Bowels to be relieved by aperients and enemata. Water bed or cushions to prevent formation of bedsores by pressure. Prone position where practicable.

SPINAL TUMOURS.—Paralysis may arise from long-continued pressure of tumours on the cord, which may grow in the cord itself, within the membranes (intra-dural) or outside the membranes (extra-dural). *Intra-dural*:—Morbid growths consist of tubercle, syphilitic deposit, cancer, or hydatid cysts. *Extra-dural*:—Exostosis of odontoid process of second cervical vertebra. Tumours in syphilitic disease of vertebræ. Plastic deposit in spinal caries, &c.

Symptoms. Come on slowly. Paralysis often not manifested until great pressure is exerted. Paralysis of motion almost always precedes that of sensation. Pain over seat of growth. Cramps, and convulsive movements of extremities. Nature of tumour to be inferred from history and associated symptoms.

Treatment. Iodide of potassium. Iodide of ammonium. Red iodide of mercury. Corrosive sublimate. Syrup of iodide of iron. Cod liver oil. Nourishing food: milk. Counter-irritants to painful parts of spine, occasionally useful. Fibro-myxoma compressing cord successfully removed by Mr. V. Horsley.

SPIROMETRY.—From *Spiro*, to breathe; *μετρέω*, to measure. The mode of measuring the quantity of air which the lungs can contain.

Spirometers, or Spiroscopes, or Pneumometers, are instruments for measuring the volume of air expired from the lungs. This volume is diminished in each stage of phthisis. Quantity of air expired after most complete inspiration is the *vital volume* or *vital capacity*. The vital capacity always increases with stature; also slightly affected by weight, but not sufficiently to interfere with correctness of following table, which shows the capacity in health and in the three stages of phthisis:—

Height.	*Capacity in Health.*	*Capacity in Phthisis Pulmonalis.*		
		1st Stage.	2nd Stage.	3rd Stage.
Ft. in. Ft. in.	Cub. in.	Cub. in.	Cub. in.	Cub. in.
5 0 to 5 1	174	117	99	82
5 1 ,, 5 2	182	122	102	86
5 2 ,, 5 3	190	127	108	89
5 3 ,, 5 4	198	133	113	93
5 4 ,, 5 5	206	138	117	97
5 5 ,, 5 6	214	143	122	100
5 6 ,, 5 7	222	149	127	104
5 7 ,, 5 8	230	154	131	108
5 8 ,, 5 9	238	159	136	112
5 9 ,, 5 10	246	165	140	116
5 10 ,, 5 11	254	170	145	119
5 11 ,, 6 0	262	176	149	123

This table reads:—A man whose height is between 5 ft. 7 in. and 5 ft. 8 in. should breathe in health 230 cubic inches; in first stage of consumption this is reduced to 154; in second, to 131; in third to 108 cubic inches.

To test the vital capacity, the patient loosens his vest, stands perfectly erect, takes as deep an inspiration as possible, and places mouthpiece of spirometer between his lips. The observer having opened the tap, patient empties his lungs, steadily making deepest possible expiration; at termination of which the operator turns off the tap, thus confining the air in receiver. The receiver is then to be lightly depressed until the surfaces of spirit in bent tube on outside of instrument are on a level with each other, when the vital capacity may be read off from scale.

SPLENIC DISEASE.—The spleen is frequently enlarged in certain fevers and diseases of liver and heart. Like other glands, it is liable to,—congestion, inflammation, softening, abscess, gangrene; tubercular, amyloid (*sago-spleen*) and malignant disease; fibrinous deposits (embolic infarcts)—remains, probably, of extravasated blood; serous and hydatid cysts; and simple enlargement, greatest enlargement of spleen associated with leukæmia and Hodgkin's disease (lymphadenoma). More common among residents of tropical and marshy than of temperate climates.

Enlargement of Spleen ("Ague-cake") generally results from repeated attacks of intermittent fever. Sufferers from it have a peculiar sallow and unhealthy aspect; anæmic appearance of gums and buccal mucous membrane; tendency to hæmorrhage; dyspepsia; debility and loss of flesh.

TREATMENT. When result of ague,—aperients; bark or quinine; arsenic. In other forms,—steel; phosphorus; bromide of potassium; sulphate of zinc. Friction with diluted ointment of red iodide of mercury. Good nourishing food. Residence in a dry and bracing locality. Avoidance of mercury and depletion. Iodine, iodide of lead, nitric acid, ergot of rye, have been employed. Extirpation of the spleen (Splenectomy) has been resorted to. Galvanism.

STOMATITIS.—From Στόμα, a mouth; terminal *-itis*. Inflammation of the mouth. A common disease of young children. It may occur in three forms—*i.e.*, according as chief seat of morbid action is in mucous follicles of mouth, substance of gum, or in tissues of cheek.

1. Follicular Stomatitis.—Inflammation of mucous follicles of mouth may be idiopathic, or a sequela of one of the eruptive fevers.

SYMPTOMS. Difficulty of sucking. Abundant flow of saliva. Sub-maxillary glands tumid and tender. Restlessness, with fever. Loss of appetite. Diarrhœa with offensive motions. Small vesicles on inside of mouth, on tongue and fauces: vesicles burst and form ulcers, which are covered with dirty white or yellowish sloughs.

TREATMENT. Application with a camel's-hair pencil, of borax and glycerine, 250, or solution of nitrate of silver. Mild tonics. Carbonate of magnesia. Chlorate of potash. Attention to the milk supplied to child. Beef tea.

Parasitic Stomatitis.—See *Aphthæ of Mouth.*

2. Ulcerative Stomatitis.—*Diphtheritic Gingivitis Ulcerosa.*—Ulceration of the gums, sometimes destroying these parts and denuding the teeth. Occurs mostly in badly nourished children. May be erroneously attributed to use of mercury.

SYMPTOMS. Heat of mouth. Salivation. Offensive breath. Swelling of upper lip or cheek: enlargement and tenderness of submaxillary glands. Gums get swollen, red or violet coloured, and covered with a layer of pulpy greyish matter. If disease proceed, gums become destroyed by the ulceration: teeth are exposed and loosened. Inside of cheeks may be involved in irregular sloughing ulcerations.

TREATMENT. Chlorate of potash, gr. 5, may be given every four hours in sweet tea to an infant one year old. Subsequently, bark in wine. Cod liver oil. Pure milk; that of the ass, goat, or cow. Solution of raw meat, 2. Beef tea, 6.

3. Gangrenous Stomatitis.—Synon. *Cancrum Oris: Noma.*—A formidable disease. Occurs in weakly children between second and fifth year.

Symptoms. Debility. A hard indolent swelling on one cheek. On examining mouth, a whitish or ash-coloured eschar is seen in centre of cheek: slough increases until it spreads over whole of inside of cheek, lips, and gums. Very little fever or pain. Saliva copious: breath horribly fetid. Great constitutional disturbance. Pulmonary complications apt to occur. Frequently, death.—Often attributed to use of mercury: may occur where none has been given.

Treatment. Application of nitrate of silver, sometimes of strong nitric acid to slough. Frequent syringing of mouth with warm water: with solution of permanganate of potash, 78; with chlorinated soda gargle, 254. Chlorate of potash in bark. Wine, or brandy. Raw meat, 2. Milk: cream, and everything nourishing.

STROPHULUS. — Synon. *Tooth-rash; Red Gum Rash.* A papular skin disease, peculiar to infants and young children (Miliaria). Characterised by an eruption of minute, hard, sometimes slightly red, and clustered or scattered, pimples. May appear upon a part, or extend over whole surface of body. Irritation slight.

Varieties. Several described, according as papulæ are large or small, scattered or grouped. Practically, all forms due to stomach or intestinal derangement: the consequence of improper feeding, of irritation about gums from dentition, or too much clothing.

Treatment. Careful diet. Avoidance of acid milk. Mild antacid aperients. Syrup of iodide of iron. Syrup of phosphate of iron. Quinine. Weak glycerine lotions. Lancing gums, in strophulus connected with difficult dentition.

STRUMOUS LYMPHATIC GLANDS.—Inflammation of these glands very common in strumous children. The glands along the sterno-mastoid muscle most frequently affected. Carious teeth, irritation of pharyngeal mucous membrane by sewer-gas (E. Owen), sores in mouth, &c., exciting causes, which must be carefully treated. Impetigo and pediculi often set up local enlargement of glands at back of neck. Axillary and inguinal glands enlarge and inflame through sores on extremities, scabies, &c. Strumous glands very apt to suppurate, leaving large cavities.

Treatment. Cod liver oil, syrups of iodide or hypophosphite of iron. Nourishing diet. Sea air. Disinfection of child's apartment with iodine. Iodide of lead ointment locally, sometimes removal of indolent glands.

STRUMOUS ABSCESS.—Common result of inflammation of gland, may caseate and dry up. Usually bursts, discharging a sanious or cheesy pus, leaving a strumous ulcer. Apt to burrow, forming long sinuses.

Treatment. Lay abscess freely open, slit up sinuses, scrape capsule of gland with Volkmann's spoon. Dress wound with glycerine and carbolic acid (1 in 10). Anti-strumous remedies.

STRUMOUS ULCERS.—Indolent. Painless. Have thin pink edges often deeply undermined. Base smooth or with ill-formed flabby granulations, which secrete a thin pus. Often extend in one direction while healing in parts. Leave a disfiguring pink puckered cicatrix, sometimes warty; adherent to deeper tissues.

Treatment. Anti-strumous remedies. Scrape the base with Volkmann's spoon, pare edges freely, dress with carbolic acid and glycerine, or iodide-of-lead ointment.

STYES.—A stye or hordeolum (from *Hordeum*, barley) is due to inflammation and suppuration of a Meibomian follicle, forming small boils, of the size and firmness of a barleycorn, situated at the edge of the eyelid.

Treatment. Soothing applications: fomentation: rice or bread poultice at night till follicle bursts. Give sulphide of calcium ½ gr. three times a day in coated pill. Laxatives. Simple diet. Open-air exercise. Harrogate waters.

SUNSTROKE. Synon. *Insolation; Heat Apoplexy; Coup de Soleil; Thermic Fever.*—A disease caused by heat, usually by the sun's rays direct, but may attack men in ships and barracks. Most frequent in moist tropical climates, and amongst overworked and intemperate persons.

Symptoms. Three forms of sunstroke (Fayrer). In *Syncopal* or *Cardiac Fever.*—General faintness or complete syncope, nausea, vomiting, sometimes fatal result from failure of heart's action.

Asphyxial Fever.—Very sudden failure of respiration, as well as syncope.

Hyperpyrexial Fever.—A true and very severe fever, usually insidious; premonitory symptoms often associated with great increase in secretion of urine. Later, dyspnœa, contracted pupils, temperature very high, suppression of urine and death frequent.

Convalescence.—Always slow, especially after asphyxial and hyperpyrexial fever. Grave sequelæ. Chronic headache, loss of memory, meningitis, insanity, blindness.

Treatment. *Curative:*—Cold douche. Watch pulse carefully, especially in syncopal fever. In hyperpyrexia apply ice-cap or bladder filled with ice. Wet packing if no ice can be procured. Take temperature in rectum and discontinue application of cold when it falls to normal. Subcutaneous injections of antipyrin. Ammonia, and ether if pulse fail. Tea with sugar. During convalescence blister nape and give iodide of potassium if there be headache and other nerve symptoms.

Prophylactic:—When a march is undertaken in India during hot season, weak and sickly to be left behind. Costume to be suitable to early morning hours before sunrise, as well as for scorching heat which follows. Flannel shirts, as safeguards against sudden chills: flannel belts advantageous, save in hottest weather. Shirt collars to be open. Light knapsacks without cross-belts over chest. Troops to march easy: halts when men are exhausted, with longer halt half-way, so that each man may have coffee and biscuit. To arrive on *new* ground about an hour after sunrise. Camp to be formed on as high and open ground as possible. Men to have an ample supply of water. Rations of spirits to be discontinued (Aitken).

SUDAMINA.—From *Sudo*, to sweat. Synon. *Sweat Vesicles.*—Consist of crops of small transparent vesicles, which come out in many diseases attended with sweating. Later the vesicles dry up, and the skin is peculiarly rough and harsh. The skin looks as if dotted with small colourless glass beads. Most common on front of neck and chest. Occurs sometimes after surgical operations, with great rise of temperature. No treatment required.—See *Miliaria.*

SUPRA-RENAL CAPSULAR DISEASE.—Synon. *Morbus Addisonii: Supra-renal Melasma.*—An excessive degree of anæmia, with bronzing of the skin, supposed to be due to scrofulous disease of the supra-renal capsules, which are found in caseous condition.

SYMPTOMS. Commence very gradually: failing health and debility. Languor; loss of appetite; feeble pulse; irritability of stomach; progressive emaciation Paroxysms of vomiting and gastric irritation; with faintness; indications of disturbed cerebral circulation. A gradual discoloration of skin; most marked on exposed parts, and on parts naturally pigmented—*i.e.*, about face, neck, axillæ, back of hands, circumference of navel, gradually becoming of a dingy, bronzed, or smoky hue. Dark patches often present, also on mucous membrane of mouth. The symptoms probably due to implication of solar plexus of sympathetic. The discoloration not produced by cancerous or inflammatory destruction of the capsules, and in caseous degeneration appears only when case has been of long duration.—After an average duration of eighteen months, death from extreme anæmia and exhaustion.

TREATMENT. Relief of prominent symptoms. Tonics. Strychnine. Phosphorus. Iron, with good nourishing food, are useful for a time. Alcohol. Wine.

SUSPENDED ANIMATION.—Synon. *Asphyxia; Apnœa; Suffocation.*—May result from strangulation, and obstruction of larynx by foreign bodies; inhalation of chloroform, carbonic acid, or other poisonous gases; narcotic poison; a stroke of lightning; and drowning. In all forms, treatment resolves itself into allowing free ingress of pure air to lungs; and then inducing warmth and circulation.

In *syncope* the heart primarily affected through want of blood, or interference with its action.

In *coma* the brain is the first organ affected, though the functions of lungs and heart soon suffer.

Appearances which indicate death: — Complete cessation of breathing and heart's action; eyelids half-closed, and pupils dilated; jaws clenched; tongue appearing between teeth, with frothy mucus about mouth and nostrils; fingers semi-contracted; with increasing coldness and pallor of surface.

1. Drowning.—Royal Humane Society's System.

Cautions:— 1. Lose no time. 2. Avoid all rough usage. 3. Never hold the body up by the feet. 4. Nor roll the body on casks. 5. Nor rub the body with salt or spirits. 6. Nor inject tobacco smoke, or infusion of tobacco.

Restorative means:—1. Convey the body carefully, with the head and shoulders supported in a raised position, to the nearest house.

2. Strip the body and rub it dry, then wrap it in hot blankets; place it in a warm bed in a warm chamber.

3. Wipe and cleanse the mouth and nostrils.

In order to restore the natural warmth of the body:—1. Move a heated, covered warming pan over the back and spine.

2. Put bladders or bottles of hot water, or heated bricks, to the pit of the stomach, the armpits, between the thighs, and to the soles of the feet.

3. Foment the body with hot flannels, but if possible immerse the body in a warm bath, as hot as the hand can bear without pain, as this is preferable to the other means for restoring warmth.

4. Rub the body briskly with the hand; do not, however, suspend the use of the other means at the same time.

5. In order to restore breathing, introduce the pipe of a common bellows (where the apparatus is at hand) into one nostril, carefully closing the other and the mouth, at the same time drawing downwards and pushing gently backwards the upper part of the windpipe to allow a more free admission of air; blow the bellows gently, in order to inflate the lungs, until the breast be a little raised; the mouth and nostrils should then be set free and a moderate pressure made with the hand upon the chest. Repeat this process until life appears.

6. Electricity to be employed early by a medical assistant.

7. Inject into the stomach, by means of an elastic tube and syringe, half a pint of brandy and water, or wine and water.

8. Apply sal volatile or hartshorn to the nostrils.

General observations:—On restoration to life, a teaspoonful of warm water should be given; and then, if the power of swallowing be returned, small quantities of warm wine, or weak brandy and water warm. The patient should be kept in bed, and a disposition to sleep encouraged. Great care is requisite to maintain the restored vital actions, and at the same time to prevent undue excitement.

The treatment recommended by the Society is to be persevered in for three or four hours. It is an erroneous opinion that persons are irrecoverable because life does not soon make its appearance; and it is absurd to suppose that a body must not be meddled with or removed without the permission of a coroner.

2. **Intense Cold.**—Acts chiefly on nervous system. There is giddiness: inability to see; weakness and rigidity of limbs: almost imperceptible respiration and pulse; tendency to profound sleep; and coma.—Attempt restoration of circulation and sensibility by rubbing body with snow or ice or cold water. Then friction with flannel long-continued. Very gradual application of warmth. A stimulating enema, or stomach-pump,—unless warm milk, or coffee, or beef tea, or wine can be swallowed.

3. **Syncope.**—From Συγκόπτω, to be affected with sudden prostration. Synon. *Swooning: Fainting.*—Remedies for fainting are:—Recumbent position with head low. Cold air. Cold water dashed over head and chest. Smart blows on chest with corner of a wet towel. Friction or sinapisms over heart's region. Small quantities of ammonia or brandy. Galvanism to rouse heart's action.—In apparently hopeless cases of syncope from hæmorrhage, a full dose of opium in brandy. Transfusion.

4. **Intoxication, or Narcotic Poisons.**—Treatment of:—Patient to be placed on his side, with head slightly raised. Cold affusion. Heat to extremities. Stimulating embrocations to chest. Use of stomach-pump, as emetics and tickling of fauces seldom act where insensibility is great. Artificial respiration. Galvanism. Strong tea or coffee. Solution of acetate of ammonia.—See *Poisons.*

SYPHILIPHOBIA. — From *Syphilis;* and φοβέω, to dread. Synon. *Syphilomania.* — A morbid or hypochondriacal fear of syphilis, producing imaginary symptoms of the disease.

SYMPTOMS. Allied to those presented in fictitious cases of spermatorrhœa or impotence. Great mental suffering. Impairment of general health. Urgent desire for anti-syphilitic drugs.

TREATMENT. Some preparation of zinc with strychnine or nux vomica, 407, 411. Iron, 380, 387, 408. Mineral acids, 376, Hypophosphite of soda and bark, 419. Cod liver oil. Good Diet. Cold or tepid baths. Sea air.

SYPHILIS.—Several derivations have been given of this word; but according to Dr. Mayne none seem better than that of Blancardus,—Σὺν, together; φιλέω, to love. Synon. *Lues Venerea; Venereal Disease; Pox.*

1. **Primary Syphilis.**—Begins as a specific papule or chancre, "Hunterian chancre," appearing on the part to which the virus has been directly applied.

This induration, whether in form of papule or sore, is accompanied by adhesive inflammation, and gives rise to a specific chronic enlargement of the inguinal glands followed by constitutional symptoms. A period of incubation, varying from fifteen days to six or seven weeks, elapses from the time o inoculation to the appearance of the induration. The sore usually single, is characterised by the margin and base bein indurated from the effusion of lymph; while the secretion from it is scanty, and formed of serum, lymph globules, and epithelial débris. This secretion is not inoculable upon the infecte party.

2. Constitutional Syphilis.—Many cases of chronic ill-healt are due to it; while it is often the cause of obscure diseases o the vital organs, affections of the bones, rebellious ulcers of th cutaneous or mucous surfaces, troublesome skin diseases, impotence or sterility, abortion, and the death of the fœtus i utero.

SYMPTOMS. Divided into two classes, *secondary* and *tertiary*, which differ in character. In the beginning there is general disturbance of the system. Fever, mental depression, lassitude, pains in the limbs, sometimes night-sweats, and a sallow hue o skin. Shortly, unmistakable evidence afforded by early secondaries, a fugitive roseolar eruption on chest and abdomen not attended with itching, which leaves a yellow discoloration when the redness is removed by pressure; with this will usually be erythematous sore throat, enlargement of glands of back of neck, and perhaps loss of hair. The later secondary cutaneous eruptions may be papular or scaly, of coppery tint, sometimes pustular, and the sore throat is ulcerative. Mucous tubercles or patches on fauces, at commissures of lips, about vulva, scrotum, anus, &c., common at this period; also alopecia, loss of eyebrows and eyelashes; iritis; deafness, discoloration and crumbling nails, or inflammation and ulceration about their roots; superficial ulcerations on the tongue and lips.

The tertiary affections of the skin are rupia, ulcerations and gummy deposits; other tertiary symptoms are perforating ulcers of soft palate, destructive ulceration of pharynx, gummatous tumour and ulceration of tongue; ulceration of the larynx; diseases of the periosteum and bones, as nodes; pain about middle of sternum; and syphilitic diseases of the brain, spinal cord, lungs, heart, liver, kidneys, &c.

TREATMENT. Diet light and nutritious; fish, meat, milk, cream, raw eggs; claret or sherry and water. Warm clothing, flannel, and avoidance of cold and damp. Warm water or vapour baths. The system to be brought and kept for a long time under the influence of mercury by one of the following methods:—For hard chancre and early secondaries,—One grain of grey powder, and a grain of Dover's powder four times a day. (Hutchinson). Blue pill. Calomel. Compound calomel pill. Mercury and chalk. Inunction with mercurial ointment; sixty or more grains every night. Mercurial vapour baths, 131. Solution of corrosive sublimate, given for many weeks, 27.

Green iodide of mercury, 53. Red iodide of mercury, 54. Donovan's solution, 51. In late secondary and in tertiary stage: iodide of potassium, 31. Iodide of sodium, 39. Iodide of iron, 32. Opium. Cod liver oil.—The "*Zittmann*" *eliminative plan* consists of rest in bed in a warm room: a very moderate diet without stimulants: a mercurial purgative every second day: and the production of sweating by copious draughts of compound decoction of sarsaparilla. Subsequently, a course of tonics or of alkaline waters. Carious teeth to be stopped before any mercurial treatment. Tincture of myrrh to be used when brushing the teeth.

3. **Infantile Syphilis.**—May be hereditary or acquired. Infant usually born healthy-looking: but sometimes with its skin of a dull colour, and its features contracted—like a little old man.

SYMPTOMS. Generally, within the month, symptoms of coryza set in; the "snuffles," cough, difficulty in sucking, dryness of the lips and mouth. Voice shrill and hoarse. Superficial ulcerations about mouth and throat. Parts around the mouth, nostrils, buttocks, arms, and flexures of joints become copper-coloured, fissured, and excoriated. Child wastes and gets very weak. Amyloid disease of liver. Indurated nodules in lungs. Syphilitic iritis. Chronic interstitial keratitis. Deafness.—*In children with inherited syphilis:*—A peculiar physiognomy. Tendency to chronic interstitial keratitis. Notching of central upper incisors of permanent teeth, and pegged character of the lateral incisors (Hutchinson). Bony enlargement in frontal and parietal eminences.

TREATMENT. Mercurial inunction. Mercury and chalk. Iodide of potassium. Chlorate of potash. Feeding by hand,—goats', asses', or cows' milk.

TABES DORSALIS.—From *Tabeo*, to waste away; *dorsum*, the back.—A very chronic disease, due to sclerosis of the posterior columns of the spinal cord, producing palsy.—See *Locomotor Ataxy*, under head of *Paralysis*.

TABES MESENTERICA.—From *Tabeo*, to melt away; *Μεσεντέριον*, the membrane which connects the intestines together,—*μέσος ἔντερον*. Synon. *Mesenteric Disease; Abdominal Phthisis.*—A tubercular degeneration of the mesenteric glands. Tubercle formed in the glands, destroying their structure, and obstructing the passage of chyle through the convoluted lacteals traversing them. Particularly affects infants and young children. Often combined with tubercular peritonitis and tubercular disease of intestinal mucous membrane.

SYMPTOMS. More or less constant pain in bowels: sometimes severe, causing legs to be drawn up towards belly. Deep red colour of lips: angles of mouth covered with small ulcers, or lips fissured. Irregular action of bowels; motions generally frequent, watery, unhealthy, and fetid. Abdomen swollen and tense:

wasting of other parts of body until extreme emaciation ensues. Great pallor: general debility, weakness rapidly increasing. Recovery occasionally takes place, if disease be checked befor functions of glands are much impeded. Symptoms of pulmonary consumption, or of tubercle of bronchial glands, or of tubercular meningitis may supervene.

Treatment. Diarrhœa to be checked by astringents, 36, 96, 97. Tonics as in phthisis, but maltine or glycerine instead o cod liver oil, 405. Food must not contain much fat, since lacteal are diseased. Meat extracts and little milk. Mild nourishin food. Asses' or goats' milk. Milk and soda water. Peptonise foods, 4*a*. Zyminised suppositories with peptonised meat or peptonised milk. Inunctions of cod liver oil, 283. Milk and lim water. Cream. Raw eggs. Carrageen or Irish moss. Raw minced beef, 2.—Friction of abdomen with soap or opiate liniments. Linseed poultices. Wet compress. Warm, or tepid, sal water baths. Iron, or oak bark, baths, 126. Warm clothing. Flannel bandage round abdomen, night and day. Well-ventilate sleeping room. Sea air.—Margate, Broadstairs, Folkestone, Scarborough, Brighton, Hastings, Ventnor.

TEMPERATURE OF BODY.—The normal temperature at unexposed parts of surface is 98·4° Fahr. A persistent rise above 99·5°, and a continued depression below 97·3°, are indicative of disease. The increase above 99° is the best index of amount of fever present.

Observations should be taken at least every morning and evening, always at the same hour throughout the whole illness. Pulse and respirations to be noted at same time. The bulb of thermometer to be placed under the tongue or applied to armpit, groin, or belly: to be kept in close contact with skin; to remain in situ at least three minutes. Were it not for obvious objections, the rectum would be the best situation.

There is a continuous elevation of temperature in most cases of progressive *tuberculosis* from the beginning; the temperature becoming normal when the disease becomes arrested.—A continued elevation occurs in all *acute inflammatory diseases*. In *rheumatism: empyema: suppuration: continued* and *eruptive fevers*, &c. During paroxysms of *ague*, from commencement of the rigor to the termination of the sweating stage.—A persistent temperature of 105° is indicative of danger, or of a tendency to some important complication, in *pneumonia, typhoid fever, typhus, small-pox, measles. scarlet fever, erysipelas, acute rheumatism*, and *septicæmia*. In any case, a rise above 106° very unfavourable; above 110°, disease in all probability will be fatal. In *typhoid fever*, a sudden fall below normal heat has indicated the occurrence of hæmorrhage from ulcerated Peyer's patches, many hours before blood has appeared in the stools.—During *convalescence from acute disease*, a sudden rise in temperature may be the first indication of a relapse: an abnormal fall (as to 95°) shows a tendency to collapse, and indicates the need of hot applications, stimulants, warm soups, &c.

TESTICULAR NEURALGIA.—There may be merely increased sensibility of the testicle,—*irritable testis.* Or the pain will be most distressing, assuming the character of true *neuralgia.* No swelling or increase of heat: but only intolerance of least pressure, and retraction of gland close to the groin during the paroxysms. Either irritable testicle or neuralgia may arise from onanism, or excessive intercourse; disease at prostatic part of uretha; as a sequel of testitis; from gout; dyspepsia, with very acid urine; a calculus in kidney or ureter; varicocele, &c. The *remedies* are:—Belladonna, aconite, and opium locally applied: cold lotions or even ice bag; subcutaneous injections of morphia into scrotum. Quinine; iron; arsenic; valerianate of ammonia or zinc. When pain has been very acute, patients have demanded castration; compliance with such a wish perfectly unjustifiable, save in very exceptional instances. Where castration resorted to, the pain would return in the cord, unless due to actual disease of the gland.

TESTICULAR TUMOURS.—The testicle may be the seat of a fibrous transformation. Of fibro-plastic or myeloid growths; or of enchondromatous (cartilaginous) tumours. Non-malignant cysts of different kinds may form (see *Hydrocele*), *cystic sarcoma* has occurred. Scirrhus is less frequent than medullary cancer. Young children are occasionally affected with sarcoma. Extirpation is the only remedy in all cases where treatment is really necessary. In cystic sarcoma a perfect cure may be hoped for by removal; in cases of carcinoma a recurrence is very much to be feared. Syphilitic orchitis closely resembles solid tumour of testicle.

TESTITIS.—Inflammation of the testicle may be acute or chronic; or it may be specific,—syphilitic, or tubercular.

1. Acute Testitis.—Synon. *Acute Orchitis; Swelled Testicle.*—Generally due to extension of gonorrhœal inflammation, especially in neglected second or later attacks; from irritation by catheterism; impaction of calculus in prostatic urethra; from mumps and from blows. The central portion or body of the gland usually affected in mumps or traumatic cases. The epididymis and tunica vaginalis generally most involved in gonorrhœa or cases due to urethral irritation (*epididymitis*).

SYMPTOMS. Pain and feeling of weight in cord and testicle. Uneasiness about the loin, groin, and upper part of thigh. Frequent micturition. Diminution of urethral discharge. Swelling of epididymis, which embraces and hides the testicle; scrotum firm and tense; swelling of cord; often fluid in *tunica vaginalis.* Great tenderness; pressure aggravates the pain. Febrile disturbance; nausea and vomiting; constipation. Abscess rarely forms. Very seldom the inflammation has ended in gangrene.

TREATMENT. Rest in bed; support testicle by pillow; give saline purgatives. Sulphate of soda and taraxacum, 144. Sulphate and carbonate of magnesia with colchicum, 141. Opium, in doses sufficient to relieve pain. Hot fomentations, with application of extracts of belladonna and poppies, 297. Pressure by means of strapping, or of strips of mercurial plaster, methodically applied, when the acute stage has abated.

Puncture with a thin sharp knife into body of testis, so that by division of tunica albuginea the pressure on lobules and convoluted tubes may be removed; the incision allows a quantity of serum and a few drachms of blood to escape; there is immediate relief, the process seldom requiring repetition (Henry Smith). Puncture of the testicle, followed as soon as bleeding has ceased by tight compression with strapping: administration of one grain of opium (Spencer Watson).

2. Chronic Testitis.—Synon. *Chronic Orchitis.*—Is either the sequel of an acute attack; or the inflammation may be subacute or chronic from commencement. May be due to stricture of urethra; to gleet; very frequently to tertiary syphilis.

SYMPTOMS. Morbid action usually begins in epididymis, and extends to body of testicle. There is swelling, hardness, and tenderness on pressure; a sense of weight. Sometimes, effusion of serum into tunica vaginalis—hydro-sarcocele. When due to constitutional syphilis, the testicle is very hard and not tender, the cord free, and the skin not adherent.—In secondary syphilis both testes are usually involved, and their surfaces smooth.—In tertiary syphilis the disease usually is unilateral, and testicle feels irregular. Hydrocele common. Other symptoms of syphilis present. In tertiary syphilitic testicle a gumma may break down, leaving a deep tertiary ulcer on the scrotum.

TREATMENT. Removal of cause; examination of urethra for stricture, &c. Avoidance of active exercise. Use of suspensory bandage. Pressure, firmly and evenly applied, by encircling the gland with strips of strapping or of mercurial plaster. Iodine liniment diluted. Red iodide of mercury ointment diluted, 302. Iodide of potassium, 31. Mercurial vapour baths, 131. Red iodide of mercury, 54. Corrosive sublimate with sarsaparilla, 27.

3. Scrofulous Testicle. Abscess and Fungus of Testicle.—Slow and subacute inflammation, with deposit of tubercular matter between the tubuli seminiferi, or into the epididymis.

SYMPTOMS. Formation gradually of a nodular swelling, without pain. Tumour seldom attains much size, cord thickens, and skin adheres. Softening and suppuration; the swelling bursts, pus and tubercular matter coming away; sinuses form, and communicate with similar enlargements. The sores may put on a healthy character, or there may be a protrusion of tubular structure of the organ—fungus of testicle, which slowly increases. Vesiculæ seminales often involved. Tubercular disease of lungs often also present

Treatment. Nourishing food: stimulants, milk, cream, raw eggs, beef solution, 2. Sea air. Cod liver oil. Ammonia and bark. Hypophosphites of soda or lime, and bark, 419. After evacuation of pus, pressure by strapping. Fungus to be returned and kept in place by strapping, after separating by dissection the thickened integument adherent to the margins of the wound, and then carefully bringing the edges together. Where the protruded part has become disorganized, it must be sliced off,—a proceeding equivalent to partial castration. Lotions of sulphate of zinc, 264; or iodine, 269. Where constitutional disturbance is great, removal of source of irritation by castration may be required.

TETANUS.—From Τείνω, to bend or strain. Synon. *Rigor Nervorum; Spasm with Rigidity.*—A disease, the chief feature of which is long-continued contraction or spasm of certain muscles. Rigidity of muscles continuous, and hence spoken of as *tonic spasm* or *spastic contraction;* in contradistinction to *clonic spasms* of convulsions, where there are alternate contractions and relaxations. Cause: usually a wound, but especially exposure to cold after a wound.—Cases of *idiopathic*, more hopeful than of *traumatic*, tetanus. Symptoms very similar to those produced by poisonous dose of strychnine. Tetanus is caused by a bacterium which produces in the system a chemical substance which is a violent poison, and the analogy is therefore very close.

Symptoms. Usually set in gradually: muscles of jaws and throat first affected. Patient complains that he has taken cold, and as if he had got a sore throat and stiff neck; but stiffness and uneasiness soon increase, and extend to the root of the tongue, causing difficulty in swallowing. Temporal and masseter muscles gradually get involved, so that jaw fixed and mouth firmly closed; *lock-jaw* or *trismus* (Τρίζω, to gnash with the teeth). When disease proceeds, remaining muscles of face, trunk, and extremities become implicated. Angles of mouth drawn outwards and upwards (*risus sardonicus*); muscles of neck, back, abdomen, hard and tense, and from time to time violent contractions occur. Spasms never entirely cease except in some cases during sleep: easily excited to violence by movement, sounds, bright light, or irritation of any kind, aggravated every quarter of an hour or so, increased cramp lasting for a few minutes and then partially subsiding.—Where strong muscles of back are most affected, they bend body into shape of an arch, so that patient rests upon head and heels, a condition known as *opisthotonos* (Ὄπισθε, backwards; τείνω, to bend).—When body is bent forwards by strong contraction of the muscles of neck and abdomen, affection termed *emprosthotonos* (Ἔμπροσθεν, forwards, and τείνω).—If muscles are affected laterally, so that body is curved sideways, the disease has been designated *pleurosthotonos* (Πλευρόθεν, from the side, and τείνω), or *tetanus lateralis*. The last two rare.

Frightful suffering caused by tetanic spasms. Face pale; brows contracted; skin covering forehead corrugated; eyes fixed and prominent—sometimes suffused with tears; nostrils dilated; corners of mouth drawn back, teeth exposed, and features fixed in a grin—*risus sardonicus*. Respirations performed with difficulty and anguish; severe pain at sternum; great thirst, but agony increased by attempts at deglutition; pulse feeble and frequent; temperature raised; skin covered with perspiration; patient cannot sleep, or if he dozes it is only for a few minutes at a time. With all this suffering, intellect remains clear and unaffected. Death usually occurs between third and fifth days; partly from suffocation, partly from exhaustion.

Treatment. Perfect quiet: whatever interferes with this does harm by provoking spasm: no noise, light to be subdued. Fluid nourishment with brandy to be given, if necessary through a nasal tube or by the bowel. Medicinal treatment empirical and often useless. If traumatic, the wound must be carefully and antiseptically dressed. Full doses of calomel and jalap, until bowels are freely acted on. Inhalation of chloroform, more or less insensibility being kept up for many hours or even days. The only medicines at all of service are chloral in 30 gr. doses every six hours. Bromide of potassium in ʒj doses frequently. Extract of Calabar bean, 1 gr. every two or three hours, or ⅛th gr. every hour. Subcutaneous injections of atropine.

Bacteriologists tell us that the blood of the rabbit has a germicidal action on the bacillus of tetanus, and the rabbit is not susceptible to this disease.

Opium objectionable: said to produce a state of congestion and polar excitement of spinal cord; yet cases have recovered in India after repeated employment of opium smoking for many days. Bloodletting; blisters; cold, hot, and vapour baths; mercury; antimony; &c. &c., have been fruitlessly employed.—See *Trismus Nascentium*.

TETANY.—This name was given by Trousseau to a tonic contraction of the muscles of the fore-arm causing partial flexion of the fingers and wrist, which is attended with pain and discomfort. The lower extremities are sometimes affected, when the foot will be arched.

It is most common in children and in women who are suffering from debility, and it may persist for a long time.

Treatment. Improve general health. Tonics. Bromide of potassium. Galvanism with positive pole on limbs.

THROMBOSIS.—By this term (from *θρόμβος*, a clot of blood) is generally understood the partial or complete closure of a vessel by a clot caused by some morbid process developed at the site of the obstruction, or by impeded blood flow. The coagulum, which is usually fibrinous, is known as a *thrombus*. It is adherent to the walls of the vessel and so differs from post-mortem coagula, which are soft and not adherent and rarely fill the bloodvessel or cavity.

Thrombi mostly met with in diseases attended with exhaustion. Particularly in croup, diphtheria, scarlatina, endocarditis, pneumonia, phthisis, typhus, purpura, erysipelas, hæmorrhage, &c. Their formation favoured by condition of blood during pregnancy and puerperal state.

Treatment. Variable according to the symptoms. Indications generally are to support the vital powers and allay irritability. Brandy. Rum. Essence of beef, 2, 3. Milk. Brandy and eggs, 17. Ammonia, 361, 371. Ammonia and iodide of potassium. Ether, 368. Quinine, 379. Bark. Pure air. Perfect rest. —See *Phlegmasia Dolens.*

THRUSH.—A disease of the mouth occurring in infants.—See *Aphthæ of Mouth.*

TIC DOULOUREUX.—Severe attacks of neuralgic pain in nerves of face. Infra-orbital branches of fifth pair most frequent seat. Synon. *Neuralgia Faciei; Painful Tic.*—See *Neuralgia.*

TINEA.—From *Tinea*, any gnawing or destructive worm.—Applied generally to those cutaneous diseases which are due to presence of epiphytes or parasitic plants. All are contagious. Five varieties :—

1. **Tinea Tonsurans.**—From *Tondeo*, to shave,—because of the brittleness of the affected hairs. *Ringworm.*—A chronic contagious disease, known by decolorization and brittleness of affected hairs, scaly eruption, and roundness of diseased patches. Most common on the scalp. The parasite is the *Tricophyton tonsurans:* the sporules and mycelium of which infiltrate the texture of each hair, while they also spread among the epithelial scales.

Treatment. See *Tinea Sycosis.*

2. **Tinea Favosa.**—From *Favus*, a honeycomb. Synon. *Favus.* —Very rare. Most commonly affects the scalp, in form of small cup-shaped, dry, yellow crusts ; each crust containing a hair in its centre, and resembling a piece of honeycomb. Attended with severe itching ; hairs become brittle and fall out ; crusts have a mouldy, offensive odour, and are often surrounded with lice. The cryptogamic parasitic cause is the *Achorion Schönleinii.*

Treatment. Remove crusts with oil and poultices. Pull out hairs. Give good food and tonics, and use locally parasiticides. —See *Tinea Sycosis.*

3. **Tinea Decalvans.**—From *Decalvo*, to make bald. Synon. *Alopecia Areata.*—The hair falls off one or more circular or oval spots, leaving perfectly smooth bald patches. Parasitic origin of this disease denied.

Treatment. Blister bald places every fortnight. Tonics, strychnine, arsenic, iron, &c.

4. **Tinea Sycosis.**—From Συκόμαι, to become like a fig. Synon. *Sycosis; Mentagra; Chinwhelk; Barber's Itch.*—Characterised by inflammation of the hair follicles; causing successive eruptions of small acuminated pustules, which have been said to have a granulated appearance resembling the substance of a fig. Occurs most frequently on chin, and other parts covered by the beard. The parasite is the *Microsporon mentagrophytes*, which, according to some observers, is identical with the *Tricophyton tonsurans.*

Treatment. Months of regular treatment necessary. Attention to cleanliness. Removal of hairs with scissors, or extraction by forceps—epilation. Separation of all scabs or incrustations by poultices and simple ointments or oil. Improvement of general health by generous diet; cod liver oil; bark, quinine, steel. Destruction of parasitic plant by sulphurous acid lotion, 272; oleate of mercury, 3 to 10 per cent.; oleate of copper 10 per cent.; boric acid, ʒss., sp. ætheris ℥ss, sp. vini rect. ℥xx (Alder Smith); creasote or carbolic acid, 270; corrosive sublimate, 271; a mixture of equal parts of calomel, creasote, and sulphur ointment; ammoniated mercury and sulphur ointment, 300; or iodide of sulphur ointment, 310. In ringworm especially, sulphurous acid spray; or painting with blistering fluid or iodine liniment; or with strong acetic acid; or glacial acetic acid, washing the part directly afterwards. *To prevent spreading.* Separate brush, comb, and towel. Constant wearing of a cap lined with fresh tissue-paper daily, the old being destroyed. Application of collodion over patch.

5. **Tinea Versicolor.**—From *Versicolor* (*verso* and *color*) that changes its colour. Synon. *Chloasma; Pityriasis Versicolor; Macula Hepatica; Liver Spot.*—Makes its appearance generally on front of chest or abdomen, in form of yellowish patches covered with small branny scales. Caused by a cryptogamic plant,—the *Microsporon furfur.*

Treatment. Sulphurous acid lotion, 272. Corrosive sublimate liniment, 271. Thorough cleanliness. Flannel vests to be soaked in boiling water, dried, and baked.

TINNITUS AURIUM.—A distressing noise in one or both ears—usually associated with deafness.

May be due to various affections of auditory apparatus; frequently without apparent disease of ear. Sometimes associated with functional derangement of liver, stomach, &c.

Treatment. Remove existing disease of ear, or functional derangement.—See *Otalgia; Eustachian Tube.*

Faradization and galvanization of muscles of tympanic cavity by means of conductor resting against membrana tympani. Half a drachm of bromide of potassium at bedtime.

TONGUE DISEASES.—The tongue is exposed to many sources of disease and injury. A highly sensitive organ: hence, slight diseases of its mucous membrane, or of its muscular fibres, are commonly very painful.

1. **Glossitis.**—From Γλῶσσα, the tongue; terminal *-itis*. Synon. *Parenchymatous Inflammation of the Tongue.*—A rare affection, now that mercury is seldom used so as to induce salivation. Generally an accompaniment of other diseases rather than an idiopathic affection, or due to direct mechanical injury.

SYMPTOMS. Fever. Constitutional disturbance. Debility. Anxiety. Pain, heat, and salivation. Colour deepened. Swelling sometimes so great that cavity of mouth cannot contain the organ, and it projects beyond the teeth. Swelling may set in rapidly: often produces urgent dyspnœa. Sometimes ends in suppuration.

TREATMENT. Castor oil, 164. Castor oil and turpentine enema, 190. Croton oil enema, 191. Chlorate of potash, 61. Pencilling with nitrate of silver. Free incisions along upper surface to relieve congestion, or evacuate pus. Tracheotomy, if suffocation threaten. Ice to be constantly sucked. If food cannot be swallowed, feed by the bowel or through a nasal tube. In chronic cases the lingual arteries have been tied or the tongue removed.

2. **Ulcers of Tongue.**—Several varieties: most forms very painful, and difficult to heal.

(1) Whole of upper part of tongue sometimes superficially ulcerated. Raw surface very tender. Severe, long-continued disorders of digestive organs are chief source of this form. May occur in any disease attended with great exhaustion. To be relieved by gargles of borax, 250. Nourishing food, such as can be digested. Tonics and stimulants. Pepsine, 420.—(2) Ulcers the result of simple inflammation are usually small, superficial, without definite shape, very sensitive. Seated about tip, or near frænum, rather than at sides. Mild diet. Simple aperients, 146, 155, 161, 169. Compound powder of rhubarb. Borax gargles, 250. Application of sulphate of copper. In rheumatic and gouty subjects, Paget recommends painting tongue with a solution of chromic acid (5 to 10 grains to the ounce). Extraction of carious stumps. Removal of tartar from teeth.—(3) Ulcers from ptyalism easily distinguished by accompanying affections of gums, and fetor of breath. Most readily healed by chlorate of potash, 61. Sulphate of magnesia, 141. Sulphate of soda, 144, 148. Chlorinated soda gargle, 254. Alum and myrrh gargle, 252. Tannin gargle, 251.—(4) Superficial syphilitic ulcers generally attended with similar disease of lips, or other secondary symptoms. Appear at sides of tongue: very sore and intractable. Mercurial vapour bath, 131. Mercurial inunction. Green iodide of mercury and conium, 53. Chlorate of potash, 61. Iodide of potassium, 31. Application of boracic lotions or other emollient when ulcer is painful; nitrate of silver, or sulphate of copper, when ulcer is indolent.—(5) Deep syphilitic ulcers generally commence as

inelastic indurations or gummata, which slough in centre. Sores become deep and excavated: edges ragged and sloughy, or thickened and hard. Most common on upper and back part of tongue. Generally accompanied by other tertiary symptoms. Iodide of potassium, 31. Corrosive sublimate gargle, 256. Nitric acid gargle.—(6) Remaining forms of ulceration are either strumous, tuberculous, lupous, or cancerous. Occur with other symptoms of these diseases. Require the treatment necessary for constitutional state. Cod liver oil generally useful.

3. **Cancer of Tongue** always of the squamous-celled epithelioma type (Butlin).

SYMPTOMS. Begins as an indolent ulceration of a blister, fissure, wart, or patch of leucoma. The ulcer enlarges, induration of surrounding tissues occurs, and at length a deep sore forms with irregular, greatly everted edges, and a foul sloughy base. This ulcer causes severe pain. Profuse salivation. Cachexia. Difficult articulation and deglutition. Attacks of hæmorrhage. Great swelling of whole organ. Cancerous deposits in sublingual and submaxillary glands: in surrounding tissues. Mouth may get almost filled with an extensive ulcerated fungus, threatening suffocation. Death, generally from exhaustion, within a year or eighteen months after the first appearance of the cancer, or of cancerous change in an old sore or patch.

TREATMENT. Morphia, 315, 343. Opium and belladonna, 344. Subcutaneous injection of morphia, atropine, or aconitine, 314. Gargle of citric acid (gr. 10 to fl. oz. j). Milk; cream; raw eggs. Essence of beef, 3.—To check hæmorrhage, application of powdered matico leaf; ice; lemon juice; saturated solution of perchloride of iron.—Removal of tongue, by knife, cautery, or écraseur. To diminish sensibility and salivation, division of gustatory nerve. Division of nerve, with ligature of corresponding lingual artery. It may be necessary to feed by enemata or stomach-pump.

4. **Cracked Tongue, Tumours, &c.**—(1) *Cracked tongue* very troublesome. The clefts or fissures form an irregular series of grooves: they may be a couple of lines in depth. Render eating and speaking painful. Where this condition cannot be accounted for by any specific state of system, or by any derangement of alimentary organs, it may often be cured by application of borax and glycerine, 268. Iodide of potassium, with steel or sarsaparilla, 31, 32.—(2) Surface of tongue occasionally presents *patches of baldness—i.e.*, one or more smooth, oval glossy patches. No ulceration or fissure. Often co-exists with psoriasis palmaris: may be indicative of a syphilitic taint. Corrosive sublimate, 27. Red iodide of mercury, 54. Donovan's triple solution, 51.—(3) *Warts and condylomata* not uncommon diseases of mucous covering of tongue. The former require excision: the latter, anti-syphilitic remedies. *Papillary patches* (*leucoma* or *tylosis*) consist of large white or red tough, brawny, coarsely papillary,

and perhaps fissured spots of thickened mucous and submucous tissue due to excessive smoking, drinking, syphilis, or gout; have been called *psoriasis* and *ichthyosis* of tongue; are liable to terminate in cancer. They cause an unpleasant feeling; thickness of speech. If small should be excised. If syphilitic, iodide of potassium, 31. Conium, 336.—(4) *Hypertrophy*, a rare affection of tongue. Sometimes congenital. Enlargement generally becomes so great that mouth is too small, consequently, a large portion of the organ is constantly protruded. In some instances prolapsed part has reached below the chin. Removal may be accomplished by knife, ligature, or écraseur.—(5) When frænum linguæ is shorter than usual, the individual is said to be *tongue-tied*. If movements of tongue be interfered with, the frænum is to be divided; the point of scissors being directed downwards to avoid ranine arteries.—(6) *Encysted* or *fatty tumours* form in tongue, or beneath it. May require extirpation.—*Firm tumours* made up of fibrous and connective tissue, sometimes grow from tongue. When pediculated they may be snipped off: if any artery be felt in stalk, écraseur to be used.—(7) *Ranula* (from *Rana*, a frog; because the voice is said to be croaking like a frog's) is a semi-transparent fluctuating swelling, perhaps as large as a walnut, situated under the tongue. It consists of a dilatation of Wharton's duct of submaxillary gland. A seton should be passed through cyst; or a portion of anterior wall excised. Large sebaceous cysts between tongue and jaw called *external ranula*. Require opening from mouth. Contents cleared out, and cavity filled with lint.

TONSILLITIS.—From *Tonsilla*, the tonsil; terminal *-itis*. Synon. *Cynanche Tonsillaris; Amygdalitis; Suppurative Tonsillitis; Quinsy; Inflammatory Sore Throat.*—Inflammation of one or both tonsils, with fever.

1. Acute Tonsillitis.—Generally caused by cold and some peculiar condition of system. Liability to the inflammation increased, during youth, by repetitions of attacks.

SYMPTOMS. Chilliness or rigors. Smart fever. Redness and swelling of fauces and tonsils. Pain and difficulty of deglutition. Return of liquids through nostrils on attempting to swallow. Pain along course of Eustachian tube.—May end in resolution in about four days; often goes on to suppuration.

TREATMENT. Before suppuration ice should be sucked, and may be applied externally, or an evaporating lotion of eau de Cologne and water, or gin and water. When suppuration commences hot fomentations, poultices, steaming and gargling. Incision when pus is detected, cutting towards middle line of body. Boiled bread and milk. Beef tea stimulants and farinaceous foods. Guaiacum. Salicylate of soda. Aconite. Quinine.

2. Chronic Enlargement and Induration.—May result from acute tonsillitis, or may come on gradually in strumous children and weakly young women. Enlargement often so great that fauces appear to be almost blocked up by meeting of the glands. Swelling sometimes so great as to cause dyspnœa. Thickness of speech. Often deafness. Difficulty in swallowing. Impediment to full and deep inspirations. Sometimes concretions seen in openings of follicles.—Cod liver oil. Tonics. Sea air. If child cannot breathe with mouth shut, and chest is ill developed, or if there is deafness, portions of the glands to be excised.

Cancer of Tonsil may occur as a secondary affection. As a primary disease it is almost unknown. Where suffocation threatens, the prominent part of the gland should be excised if the whole cannot be shelled out.

TOOTHACHE. — Synon. *Odontalgia; Odontodynia; Dentium Dolor.*

1. **Toothache from Caries.**—Synon. *Odontalgia; Cariosa; Dental Gangrene.*—Softening and decay of dentine, causing great pain when central cavity of tooth is reached. May be due to original defects in formation of tooth tissues: soft enamel is acted on by acids the product of chemical change and fermentation. When dentine is reached micro-organisms take some part as yet not defined. Caries is excited by pregnancy, the use of mercury, and depraved secretions with dyspepsia, &c.

TREATMENT. Removal by scraping of decayed portion, and then stopping with gold, or amalgam of silver and mercury. Temporary stoppings with cotton wool dipped in mastic varnish; cotton wool with carbolic acid, creasote, &c. Extraction. Troublesome hæmorrhage after extraction may set in:—Remove clot from cavity, and sponge the latter dry with lint pushed into it; then plug with cotton wool soaked in a saturated solution of perchloride of iron, or of tannic acid, or of matico; and finally add a small compress of lint or piece of cork fitted between the adjoining teeth so as to keep up pressure when the jaws are closed. If necessary, tie up the lower jaw firmly against the upper, so as to maintain sufficient pressure. In caries of deciduous teeth extraction unnecessary, unless there be pain or frequent gum-boils.

2. **Toothache from Inflammation of Pulp.**—Synon. *Odontitis; Odontophlegmone.*—When the pulp has been bared, inflammation may be set up by irritation of food, cold, hot or cold fluids, &c. Sometimes follows stopping of a cavity.

TREATMENT. Aperients, 141, 144, 148, 153. Washing mouth with strong solution of bicarbonate of soda in hot water. Stopping tooth with cotton wool saturated with creasote, or chloroform, or oil of cloves, or carbolic acid, or perchloride of mercury 1 in 2000. A leech to gum. Extraction.

3. **Toothache from Necrosis of Fangs.** The crown and cervix may be healthy; and yet the fangs necrosed. The fangs of stumps get affected in same way. Abscess forms again and

again. Instead of necrosis there may be thickening of fang from bony deposit. Even exposure of a fang from recession of the gum often causes severe pain.

Treatment. Extraction. Sensibility of a bared fang may be permanently relieved by painting with carbolic acid, or nitrate of silver.

4. Toothache from Neuralgia.—Synon. *Odontalgia Nervosa; Neuralgia Dentalis.*—Not uncommon in early months of pregnancy: in cases of disordered health, &c. Rheumatic toothache of same kind.

Treatment. Attention to general health. Tincture of gelseminum, min. xx three times a day. Antacid aperients. Quinine. A leech to tender gum, or scarification. Removal of accumulated tartar (salivary salts—chiefly phosphate of lime) or of tooth.—See *Neuralgia.*

TORTICOLLIS.—From *Torqueo*, to turn aside; *collum*, the neck. —See *Wry-Neck.*

TRACHEITIS.—From *Trachea*, the windpipe; terminal *-itis.* Inflammation of the trachea.—See *Croup.*

TRICHIASIS.—From θρίξ, τριχὸς, the hair. Synon. *Morbus Pilaris; Trichiasis Ciliorum; Trichosis; Trichia.*—An inversion of one or more of the eyelashes. The cilia present their points towards the globe of the eye, producing chronic inflammation of the conjunctiva.

Treatment. Misdirected hairs to be drawn out singly, with broad-pointed and well-grooved forceps. Hair follicle to be destroyed by cautery, or hair-bulbs with corresponding portion of tarsus excised.

TRICHINOSIS.—From θρίξ, τριχὸς, a hair,—owing to the hair-like form of the entozoon producing this disease, the *Trichina spiralis.* A peculiar febrile helminthic affection, attended with symptoms somewhat resembling those of typhoid fever, irritant poisoning or cholera.—The trichinæ in the larval stage are swallowed in imperfectly cooked pork or raw sausages; they rapidly complete their development, breed in the intestines, and the young trichinæ immediately after being hatched migrate from the bowel in all directions into the muscles. The constitutional symptoms are due to the disturbance excited by the arrival of the parasites in the muscles. Trichinæ may exist free in muscular tissue, or in more or less calcified cysts about $\frac{1}{50}$ of an inch long and $\frac{1}{100}$ of an inch broad. Young trichina, extracted from cyst, is disposed in two or two and a half coils: straightened out, it measures $\frac{1}{30}$ of an inch in length, and $\frac{1}{700}$ of an inch in diameter. Fully developed and sexually-mature male trichina measures $\frac{1}{18}$ of an inch: female, $\frac{1}{8}$ of an inch.

Symptoms. Have been mistaken for those of typhoid fever.

Vary in severity according as few or many worms have been swallowed, as well as in proportion to the number of progeny and extent of their migrations. Usually, loss of appetite, general malaise; followed by nausea, prostration, diarrhœa, and painful stiffness with swelling of muscles of arms and legs. Pain due to immigration of young trichinæ into the muscles. High fever: œdematous swelling about face and eyelids. Frequent pulse. Copious offensive sweats. Diminished secretion of urine: excess of urates and uric acid, but never any albumen or sugar. Stiffness of limbs increases: muscles become painful, tender to touch, and greatly swollen. Movements of intercostal muscles in respiration attended with pain, preventing sleep. Hiccup, if diaphragm be invaded. Hoarseness and loss of voice, where laryngeal muscles get inhabited.—When a large quantity of trichinous meat has been eaten, patient may lie almost paralysed in state of great exhaustion. Facial œdema continues a week or ten days: its disappearance followed by swelling of feet and legs and trunk. About commencement of fourth week, patient's condition very unfavourable. Pulse and respirations frequent: tongue dry and red: pain severe: sweating profuse: mouth can scarcely be opened: no sleep can be obtained: præcordial anxiety and delirium; death preceded by profound exhaustion. Complications sometimes prove fatal earlier,—pneumonia, pleurisy, peritonitis, dropsy, diarrhœa, &c. In favourable cases, symptoms gradually abate; return of appetite and power of digestion, diminution of muscular pain and swelling, lessening of anæmia: parasites have become encysted in the muscles.

TREATMENT. Very unsatisfactory. In earliest stage, emetics and castor oil. Calomel and jalap, 140. Calomel, as a purgative, in 20 gr. doses: this often very efficacious in early stage when worm has not left intestine, afterwards medicine useless except such as help to sustain patient. Quinine. For relief of sleeplessness and sweating, wet-sheet packing, 136.—Perfect quiet. Broths, gruel, milk, ice, soda water, brandy and egg mixture (17), restorative soup (3), stimulants. Subsequently, during convalescence, large quantities of nourishing food, wine, &c. Ferruginous tonics.

TRISMUS NASCENTIUM.—From Τρίζω, to gnash with the teeth: *Nascor*, to be born. Synon. *Tetanus Infantum; Nine-day fits.*—A peculiar form of tetanus, which occurs in infants about second week after birth, and is very fatal. Rare in this country. A century ago, when Dublin Lying-in Hospital was badly ventilated, it proved one of the most prominent causes of infantile mortality in that institution. Still common in West Indies, where it sometimes seems to rage as an epidemic.

SYMPTOMS. After a few days, child becomes fretful, whining, and restless. Clenching of hands, flexion of feet on ankles, bending of toes, great toe separated from others, head thrown back, opisthotonos, inability to swallow, coma, death. Pathology very uncertain. Tetanus said to be due to a bacillus found in garden-earth.

When prevalent, great care necessary to guard new-born child from cold or foul air, improper feeding, imperfect cleansing, or from retention of meconium. Remains of umbilical cord to be properly and antiseptically managed, and not left to charge of an ignorant nurse. In dividing funis at birth, not more than two inches to be left attached to umbilicus. As curative remedies, warm baths, purgatives, and friction of spine with belladonna are the only measures likely to be serviceable. Castor oil. Bromide of potassium. Chloroform inhalation.

TUBERCULOSIS.—From *Tuberculum*, dim. of *Tuber*, a knob or excrescence.

May be acute or chronic.

Microscopically, tubercles consist of small cells, embedded in a finely fibrillar or structureless matrix. "Giant cells," large irregular bodies with many nuclei, have been described as characteristic, but these are simply the result of imperfect differentiation. Tubercles mostly arise from proliferation of nuclei in walls of minute vessels, and interfere with circulation in them, causing destruction of tissue.

In guinea-pigs, rabbits, &c., insertion of tuberculous or caseous matter under the skin, or even a seton, gives rise to general tuberculosis, and in man general tuberculosis may usually be traced to infection of the blood by caseous material from an inflamed and disintegrated gland. Tubercular affections mostly arise in persons of scrofulous constitution, probably because of liability to caseous change. A predisposition to tuberculosis is inherited, but if the tubercle bacillus be kept from the body the predisposed person is as safe as his more fortunate fellow-beings.

The most common tubercular diseases are pulmonary consumption, tubercular meningitis or acute hydrocephalus, tubercular peritonitis, and tabes mesenterica. Precise nature of change in blood unknown; probably the aqueous part is increased in proportion to the solids, while the red corpuscles are especially diminished.

SYMPTOMS. The scrofulous constitution usually associated with dyspepsia, with difficulty in assimilating sugar and fat. Acid eructations, heartburn, flatulence. Paleness and sense of oldness of the body. Tumidity of the abdomen. Intellectual system well developed. Sanguine temperament. Puffiness of the face, with swelling of lips and nostrils. Purulent discharges rom the ear. Vesicular eruptions about the head. Enlargement of tonsils, and glands of the neck. Disagreeable exhalations rom skin, especially from feet and axillæ. Feebleness with rapidity of pulse. General debility. Progressive loss of weight. usceptibility to attacks of simple fever. When formation of ubercles in progress, temperature usually raised. Signs of disease in the organ invaded.

May set in at any period of life. Liability to it greatest between three and fifteen, and between eighteen and forty.

Its developement favoured by all conditions which render the blood unhealthy. Malformations of chest. Defective structure of lungs. Diseased nutrition. Sexual excesses.

TREATMENT. *To prevent its transmission* :—Destruction of all waste materials from the sick : disinfection of sputa essential. Well-assorted marriages to be obtained ; great care to be taken of maternal health during pregnancy ; attention to infant's food and clothing, as well as to the air it breathes. A strumous mother not to be allowed to suckle her child. Avoidance of ill-ventilated, badly drained, or damp houses.

Curative treatment :—Improvement of the faulty nutrition. The formation of healthy blood to be promoted. Cod liver oil. Iron. Hypodermic injections of "tuberculin" (Koch) ? Special attention to diet, dress, exercise, repose, sexual intercourse, air to be breathed, functions of skin, soundness of teeth, and powers of the digestive organs.—See *Hydrocephalus ; Phthisis ; Tabes Mesenterica*, &c.

TYMPANITES.—From *Tympanum*, a tambourine or drum ; because the belly, if struck, sounds like a drum when the bowels are distended with air.—See *Flatulence.*

TYPHLITIS.—From Τυφλὸς, blind ; terminal *-itis*. Synon. *Typhlo-enteritis*. Inflammation of the Cæcum.—See *Cæcitis.*

TYPHOID FEVER.—From Τύφος, stupor ; εἶδος, appearance. Literally, "like Typhus."—Synon. *Enteric Fever ; Pythogenic Fever ; Typhia.*—May be defined as an endemic, slightly infectious, or contagious fever ; most prevalent in autumn : usually communicated through contamination of drinking water, by sewer gases or effluvia from drains, or by actual sewage containing typhoid stools, which are the chief vehicle of the poison. Milk has conveyed the disease, having been contaminated by impure water.—Attacks rich and poor indiscriminately ; but is particularly a disease of early youth and adolescence.—It frequently has a duration of thirty days. In many cases it terminates on 21st or 28th day ; and occasionally is followed by a relapse.

SYMPTOMS. Usually a period of incubation, varying from ten to fourteen, or even twenty-one days : very rarely the symptoms come on immediately after exposure to the poison.—The disorder sets in slowly and insidiously, with languor. In a day or two, there are chills, headache, thirst, pains in limbs, weakness, with a tendency to diarrhœa and sickness, sometimes epistaxis. Restlessness ; face languid and pale, or marked with a circumscribed flush on each cheek ; urine diminished in quantity ; pulse rises to 120 or higher ; short cough, frequent and scattered sibilus to be heard over lungs ; temperature rising day by day to 103° or 104° F. ; highest in the evening, morning remission of about 2° ; breath offensive, often ammoniacal; tongue at first white, with red edges, and tip later red and glazed, or dry and brown. Abdomen tumid; usually tenderness on right iliac fossa and sometimes gurgling; spleen large.—At commencement of second week, or a day or two earlier, the typhoid rash appears; rose-coloured spots on chest or abdomen; few in number; circular; disappearing on pressure; and fading away, to be replaced by a fresh crop. In 10 or 12 per cent. no rash.—After the middle of the second week, tympanites; gurgling in right iliac fossa on pressure; diarrhœa. Severe tremor indicates deep ulceration of bowel. Stools alkaline and of pea-soup appearance. Somnolence, delirium, tinnitus aurium, deafness, prostration, bedsores, &c. Attacks of hæmorrhage from the ulcerated patches in the ileum, and perforation of the bowel, with fatal peritonitis, to be feared. Congestion of kidneys. Cerebral or pulmonary complications.

Mortality about 1 in 5 or 6. A persistent temperature above 105° F., very unfavourable; above 110° a fatal result almost certain. Death usually due to exhaustion, from the protracted febrile condition or from diarrhœa; sometimes to pulmonary or cerebral complications, or to perforation of the bowel and peritonitis, or to hæmorrhage; occasionally to uræmia. In some cases the patient appears to be overwhelmed by the poison, and dies early with cerebral symptoms, delirium and coma.

Two lesions invariably present,—infiltration and subsequent ulceration of the agminated glands or Peyer's patches, and infiltration of the corresponding glands of the mesentery. During first week patches swollen, raised above surface of mucous membrane, firm; during second week ulceration of their individual follicles, which in the third week have coalesced to form one large ulcer. Spleen generally large.

TREATMENT. *Prophylactic.*—Pure water. Good drainage. No old cesspool to be opened in an inhabited house. Patient's excreta to be passed into a bed-pan containing Condy's fluid or carbolic acid, 74. Exclusive milk or milk and egg diet.

Curative:—In most respects the same as for typhus. There are two or three exceptional points:—Avoidance of aperients. Astringents with opium, or, better, opiate enemata, to relieve intestinal irritation and diarhœa, 96, 97, 100, 105, 106, 107, or 113. Cold or graduated bath or cold wet pack; patient put in bath at 65° or 70° for 15 minutes three times a day, afterwards placed in bed lightly covered. Or wrapped in sheet well wet with tepid water, over which a single thin blanket, whenever the temperature rises above 102°, till it falls to the normal point or till shivering sets it. Antifebrin, gr. 3 to 5, may be given. When there is intestinal hæmorrhage, ice-bag over the right iliac fossa. Lead and opium. Opium, ergot, turpentine. Should perforation occur opium in large doses; opium also to be given for peritonitis or tympanites. Alcohol late, if there is exhaustion.

Great care during convalescence, lest the cicatrizing ulcers in the ileum be irritated. Quinine. Liquid extract of yellow cinchona. Compound tincture of cinchona. Return to a generous diet to be very gradual: no solid food until all symptoms have vanished, and temperature normal for a week.

TYPHUS FEVER.—From Τύφος, smoke; an expression employed by Hippocrates to denote a lethargic disease, in which the patient is suddenly deprived of his senses, as if thunderstruck.—Prior to 1759 typhus was known as *Putrid*, *Pestilential*, *Malignant*, *Jail*, *Ship* or *Hospital Fever*.—May be defined as,—a contagious infectious fever. Often prevails epidemically during seasons of general scarcity. The accompaniment of destitution and of overcrowded and ill-ventilated dwellings. Duration fourteen days. Becoming rare in England.

SYMPTOMS. A period of incubation, varying from one or two to twelve days. Then, rigor, headache, dry and heated skin; flushed face and heavy dull look; thirst; constipation; stupor; prostration, &c. Towards evening, irritability and restlessness: sleepless nights. The typhus rash appears about fifth day; consists of numerous, rather large, ill-defined spots of a dull red hue at first, disappearing on pressure, later forming mulberry stains which are not obliterated by pressure, generally very copious; seen on abdomen, chest and back, but especially over pectorals near axillæ; spots also generally present on back of wrists. Skin generally dusky, and besides rash often "subcuticular mottling." Rash remains permanent until end of fever; may be accompanied by, or converted into, petechiæ; sometimes altogether absent.

During first week, deafness or noises in the ears; injected conjunctivæ; often constipation, never diarrhœa. Pulse 80—100. Temperature 104° or 105°, not varying as in typhoid. Brown dry tongue. Wakefulness; or patient sleeps, and afterwards believes he has not done so. Urine diminished in quantity; retention very common; sometimes albuminuria; occasionally complete suppression, with uræmia. In second week,—Great prostration. Muscular twitchings. Delirium. Coma-vigil. The danger may be increased by the supervention of acute bronchitis, pleurisy, or pneumonia. Convalescence rapid; usually begins with crisis on 12th or 14th day. Sometimes a critical sleep, or sweat, or attack of diarrhœa, or greatly increased flow of urine.

When fatal, death usually occurs between 12th and 20th days. Mortality about 1 in every 5 attacked. The greater the age the greater the danger. Over 60, at least 60 per cent. die.

TREATMENT. *Prophylactic:*—The poor to be supplied with wholesome food, and properly ventilated dwellings. Overcrowding to be prevented in sleeping-rooms and lodging-houses. Every common lodging-house, hospital, workhouse, &c., to be thoroughly cleansed and lime-washed, once a year or oftener. Clothes and bedding of typhus patients to be disinfected, 74, 75. The patient to be kept scrupulously clean. Not to be taken to the hospital in an omnibus, or street cab. No room where a case has been to be reinhabited until purified with chlorine gas, white-washed, or repapered, and had the fresh wind blowing through its open doors and windows for many days.

Curative:—Patient to be in a well-ventilated apartment; free from bed and window curtains, carpets, superfluous furniture; window to be open at the top. A disinfectant to be used; chloride of lime, 75; chloride of zinc, 79; iodine, 81. A fire to be kept up in the room. A form of quarantine to be maintained strictly.

Avoidance of active remedies, especially at first. No specific known for cutting short the disease: quinine fails, and is often injurious. An emetic of one ounce of ipecacuan wine, if case be seen very early. A purgative,—from 30 to 60 grains of compound rhubarb powder. One of the mineral acids, freely diluted as a daily drink, 357, 358, 359; they are valuable as alteratives, if the blood contain an excess of ammonia. Cold or tepid sponging. Wet-sheet packing, especially where there is sleeplessness, 136. Cold lotions to head. Cold affusion, when there is a tendency to coma. Warm bath, prolonged for 30 or 45 minutes, if there be great irritability. Milk diet; milk and beef tea alternately every three hours; cream; farinaceous food; thin broths; tea and coffee; diluents freely.

When the powers of life begin to fail, stimulants. Wine; gin; brandy; brandy and egg mixture, 17. Strong beef or chicken tea. Administration of the nourishment frequently: every 30, 45, or 60 minutes. Alcohol to be used carefully when urine is scanty or albuminous. Opium or chloral to relieve restlessness. If violent delirium, tartar emetic, gr. $\frac{1}{3}$ to $\frac{1}{4}$, with tincture of opium min. x–xx every three hours. Patient to be kept strictly in recumbent posture. Water-bed. Catheter, if urine be retained.

During Convalescence:—Mineral acids and bark, 376. Quinine and steel, 380. A gradual return to solid food. Country air.

URÆMIA.—From *Urea*; *αἷμα*, blood.—Toxæmia from accumulation of urea in the blood, owing to its non-elimination by the kidneys. A mode of termination of any form of kidney disease. Probably two forms of poisoning, where urea decomposed into carbonate of ammonia "*ammoniæmia*," and where such decomposition does not occur (Frerichs). Many of the symptoms have also been attributed to the high arterial tension, which is almost always present, or to serous effusion and consequent anæmia of the brain and not to presence of a poison in the blood. Perhaps also a poison from incomplete metamorphosis of nitrogenised waste into urea.

SYMPTOMS. Disturbed action of either or both of the great nervous centres. Convulsions, which may set in abruptly with little warning, or may be preceded by great debility, impairment of vision, obstinate vomiting or diarrhœa, somnolence, delirium. Convulsions, followed by coma, but coma may come on gradually without convulsions, preceded, however, by some of the above symptoms. In uræmic coma, the temperature generally low, there is often twitching of muscles, rarely stertor, and patient can commonly be roused at first; breath has urinous or ammoniacal colour. Albuminuria. Suppression of urine.

TREATMENT. Hot air or vapour bath. Blanket bath, 136. Wet sheet packing, 136. Acid sponging, 138. Compound jalap powder. Saline aperients, 152. Jalap and senna, 145, 151. Elaterium, 157. Podophyllin, 160. Digitalis. Croton oil, 168, 191. Castor oil and turpentine enemata, 190. Benzoic acid, 49. Lemon juice. One-third grain of pilocarpine hypodermically. Chloral. Nitrite of amyl. Nitro-glycerine. Subcutaneous injections of morphia. Chloroform vapour, 313. Stimulants. Tea. Venesection. Cupping over loins. Poultices of linseed and digitalis, or of fresh leaves of foxglove, to abdomen.

Dry cupping to nape of neck and loins. Ice to the head.

URETHRITIS.—From *Urethra* (Οὐρέω, to urinate); terminal *-itis*. Inflammation of the urethra may be acute or chronic, may arise in male or female, and may occur independently of gonorrhœa or syphilis.

SYMPTOMS. Sense of heat along urethra. More or less pain on urinating. Muco-purulent discharge. Irritability of bladder. Urine may contain an excess of uric acid; sometimes blood, pus, or ropy mucus. Lips of urethral orifice swollen. Constitutional disturbance. May cause retention of urine from spasmodic stricture.

TREATMENT. Hot hip baths. Fomentations and rest in bed in acute cases. Unstimulating diet. Demulcent drinks. Opium. Belladonna. Copaiba. When chronic, astringent injections or medicated bougies containing bismuth gr. x, ol. eucalypti min. x, or iodoform gr. v.

URINARY CALCULI.—From *Urina*, urine: *Calculus* (dimin. of Calx), a small stone.—These concretions are found in kidneys, bladder, or follicles of prostate gland. Very rarely, one or more urinary salts become deposited in ureters, or in urethra: usually, calculi found in these situations have travelled there from kidneys or bladder. Calculous disease much more common in men than women.

CHIEF VARIETIES. (1) Uric acid and the urates. (2) Phosphoric acid in combination with ammonia and alkaline earths. (3) Oxalate of lime (mulberry calculus); and, very uncommon forms, Cystic and Xanthic (or Uric) Oxides. Pseudo-calculi of fibrin or blood coagula, or of urostealith (a resinous or fatty substance) are exceedingly rare.

Calculi may consist of only one substance, or of alternate layers of two or more salts—as of uric acid and oxalate of lime, &c. Then called *Mixed*.

Urinary concretions vary much in size. Occasionally, resemble grains of sand or of gravel up to size of small pea which pass with urine, often in very large numbers. Particles of gravel thus voided may be made up of aggregated crystals of urinary salts—microscopic calculi. In other instances, calculi are as large as a small orange. When a stone has formed in pelvis of kidney, it may, while of moderate size, enter ureter and gradually be forced onwards towards bladder. The suffering which takes place during transit very great; popularly known as "a fit of the gravel," or *Renal colic*. As soon as calculus reaches bladder, all pain is over for a time.

SYMPTOMS OF CALCULUS RETAINED IN KIDNEY. Almost constant backache. Bloody urine, especially after exertion. Pus and epithelium of pelvis and kidney, as well as blood-corpuscles seen under microscope. Reflex irritation of distant organs. Nervous irritability. Subsequently, impaired health, loss of flesh and strength. Foreign body gradually encroaches on true renal tissue: either converts the gland into a large cyst, or sets up suppurative inflammation. When large calculi are present in both kidneys, case ends in uræmic toxæmia.

SYMPTOMS OF STONE IN BLADDER. Severe attacks of pain in bladder, perineum, and at glans penis, always brought on, or aggravated, by exercise. Frequent micturition, during the daytime: with a feeling that bladder is not thoroughly emptied by the act of urinating. Urine often thick with ropy mucus: sometimes contains pus, or blood. Blood corpuscles and vesical epithelium under microscope. Act of micturition often suddenly stopped by stone being forced against neck of bladder: on making any movement, flow of urine returns. Tenesmus: prolapsus of rectum. Stone discovered by use of sound.

TREATMENT OF RENAL CALCULUS. Plain diet; little nitrogenous but nourishing food, milk, cream, raw eggs. Bordeaux wine. Free amount of aqueous drinks. Warm clothing: flannel or chamois-leather jackets. In all forms of calculus the urine should be rendered copious and dilute by drinking a large amount of liquid,—barley water, potash water, &c., and the passages flushed from time to time so as to hinder increase of calculus by precipitation of salts on its surface and to give a chance of its being washed away. Alkaline and vegetable diuretics, infusions of buchu, &c. Cheltenham. Leamington. Friedrichshall, or Hunyadi Janos waters. In *uric acid* diathesis: Vegetable diet: white fish. Avoidance of alcoholic drinks. Free use of simple diluents. Vichy or Carlsbad waters. Acetate of potash. Bicarbonate of potash. Solution of potash. Citrate of potash.—In *phosphatic* diathesis: Animal food. Wine; diluted spirits. Bark. Quinine. Phosphoric acid. Nitro-hydrochloric acid. Steel. Opium.—In *oxaluria*:—Avoidance of garden rhubarb, sorrel salad, and sugar. Nitro-hydrochloric acid. Tepid or cold bathing. Friction of skin. Warm clothing. Sea air. Attention to digestive organs.—*To relieve pain of any form of calculus passing down ureter*:—Hot bath. Poultices, mustard plaster. Inhalation of chloroform or ether. Opium, in full doses. Morphia injections. Digitalis. Belladonna. Barley water, or any emollient diluent, with spirit of nitrous ether.—*For checking hæmorrhage:*—Quiet. Infusion of matico ℥ij three times a day. Gallic acid, 103. Tincture of perchloride of iron, 101, 392. Iron alum, 116. Pill of lead and opium. *When pyelitis and abscess:*—Operation for extraction of stone or removal of kidney. Puncture with needle for diagnosis. Nephrotomy. Nephro-lithotomy or nephrectomy.

TREATMENT OF VESICAL CALCULUS IN MALES. Opium and belladonna to allay pain. If stone be small, patient to allow urine to accumulate and then to discharge it forcibly in hot bath. Introduction of silver catheter with an open end, and washing out of bladder with warm water. Lithotrity. Lithotomy. Electricity has been employed for disintegrating calculi, but with very doubtful results. That success will ultimately follow attempts at litholysis can hardly be doubted.

TREATMENT OF VESICAL CALCULUS IN FEMALES. Four methods for removal of stone:—(1) Lithotrity: by far the best plan, as a general rule. (2) Dilatation of urethra by Hegar's dilators. Patient to be under influence of chloroform. Apt to be followed by permanent incontinence of urine, if stone larger than a grape be extracted without crushing. (3) Incision of external urethral orifice, with stretching of canal by three-bladed dilator, a bad plan. May produce incurable incontinence. Incision must be sutured and a retention catheter (Boulton's) kept in for four or five days. (4) Vaginal lithotomy: edges of incision into bladder being brought together by silver wire sutures, as in operation for vesico-vaginal fistula. Incision must always be well above the sphincter vesicæ and not involve it. Incision lengthways of vagina. Stone if large to be broken.

URINARY DEPOSITS.—Two varieties,—Inorganic and Organic. (1) *Inorganic Deposits:*—Uric, or lithic acid: amorphous or mixed urates, consisting of uric acid combined with several bases—ammonia, soda, potash, lime; urate of soda; urate of ammonia; hippuric acid; oxalate of lime; carbonate of lime; amorphous phosphate of lime, or bone-earth: crystallized phosphate of lime, or stellar phosphate; phosphate of ammonia and magnesia, or triple phosphate; cystine, or cystic oxide; xanthine, or xanthic oxide; leucine and tyrosine.

(2) *Organic Deposits:*—Epithelium from pelvis of kidney, ureter, bladder, urethra and vagina; epithelium from uriniferous tubes, with casts of the tubes (as found associated with albuminuria), such casts or moulds of uriniferous tubes being composed of epithelial cells imbedded in coagulable matter, or of an opaque granular matter, or of transparent waxy matter, or of waxy material studded with minute fatty particles, or of blood disks, or of pus corpuscles: molecular fatty matter, as in chylous urine; oil globules, free, or enclosed in cells, or adherent to casts; pus; blood; cancerous and tubercular matter; sperma-

tozoa; and minute confervoid parasitic vegetations,—sarcinæ yeast or sugar fungus (Torula cerevisiæ), mould fungus (Penicilium glaucum), and vibriones.

Soluble substances found in morbid urine:—Urea, in abnormal quantity; albumen; sugar; biliary colouring matter; and biliary acids.

URTICARIA.—From *Urtica*, a nettle. Synon. *Nettle-Rash.*—A non-contagious affection of the skin. One of the *Exanthemata.* Characterized by formation of prominent patches or wheals (pomphi), pale but with a red areola, which often appear and disappear suddenly: accompanied by heat, burning with tingling, and great itching. Sometimes constitutional disturbance; fever, coated tongue, unhealthy secretions. A chronic intermittent variety (*Urticaria evanida* of Willan), often very troublesome, lasting for months.

Urticaria generally due to derangement of digestive organs, which may be caused by use of shell-fish, mushrooms, cucumbers, cheese, pastry, bad milk, nuts, bitter almonds. Henbane, turpentine, nux vomica, and balsam of copaiba may induce it. Sometimes connected with rheumatism or gout, uterine irritation, malaria, dentition, &c.

TREATMENT. In acute urticaria, purgatives, 142, 165, 171, sometimes emetics. Sponging with vinegar and water: equal parts of tincture of arnica, glycerine, and rose water: equal parts of solution of subacetate of lead, laurel water, glycerine, and elder-flower water: solution of corrosive sublimate (gr. 5 to fl. oz. viij). Bran bath. Warm or tepid baths. Plain diet, especially avoiding all substances likely to disagree. Active exercise. In chronic forms, arsenic, saline aperients.

UTERINE CANCER. — From 'Υστέρα, the womb: Cancer (καρκίνος, a crab). Synon. *Carcinoma Uteri.*—Malignant diseases of the womb may be sarcomatous, carcinomatous, or adenomatous, and consist of epithelial cells and vascular connective tissue. If of a glandular type, the tumour is called adenoma; connective-tissue growths are sarcomas. Carcinomas and adenomas contain epithelial elements. They may attack (1) the vaginal portion of the cervix uteri covered with stratified epithelium; (2) the cervix proper, which extends from the level of the fornix vaginæ up to the inner os uteri; or (3) the body and fundus uteri (rare).

True *cauliflower excrescence* is a squamous epithelioma growing from the vaginal cervix. Cervical cancers extend from above downwards and outwards, involving the vesico-vaginal or recto-vaginal walls, and, when far advanced, the parametric connective tissue. Cancer of the body involves the whole surface, only invades the cervix late, and spreads deeply through the uterine wall or through it to peritoneum, or along the Fallopian tubes. The glands, in the broad ligament and along the spine, become affected.—A very malignant tumour, which forms grape-like masses, usually growing from the cervix, recently described by Pernice (*myo-sarcoma strio-cellulare*). It is a sarcoma, and requires complete extirpation. Uterine cancer most frequently after the thirtieth year.

SYMPTOMS. Rarely seen in very early stage, when symptoms are few. Loss of flesh or hæmorrhage is often first noticed, though white or yellow discharges are abundant. Later, when tissues break down, these become of a greenish colour, and offensive. In the earliest stages digital exploration reveals little; possibly the finger is blood-stained. Through a speculum a condition which cannot be easily distinguished from glandular erosion presents. Os has an angry look, florid and vascular. It is at this stage that operative procedure by amputation of cervix, or supra-vaginal amputation, may be effectual. Diagnosis between simple erosion and malignant erosion only possible by scraping and microscopic examination.—See *Uterine Ulceration.*

Later, the symptoms are pronounced. Hard nodules can be felt in the broad ligaments. Abundant watery discharge, of a dirty pale-green colour, always offensive. Sudden attacks of hæmorrhage. Distressing pain; at first most severe at night, afterwards always present. Nausea and vomiting; flatulence; irregular action of bowels; loathing for food. Painful mental depression. Daily increasing debility, and waste of tissues. Dingy sallow hue of countenance, and pinched anxious expression—cancerous facies.—Uterus found immovably fixed in pelvic cavity. If of cervical origin labia uteri indurated and nodulated at first; subsequently, excavated by an ulcer of a loose spongy character, seated on a hardened base, and surrounded by indurated tissue. Vagina soon gets involved: communications may form between vagina and bladder, or vagina and rectum. Death, in course of second year from commencement of symptoms, from exhaustion.

TREATMENT. *General Remedies:*—Nutritious diet, with little animal food. Tonics, especially arsenic. Disinfecting douches, preferably iodine two or three times a day. Between the douches a tampon smeared with iodoform ʒj, eucalyptus ʒj, vaseline ℥j, to be kept in vagina. Pain is best relieved by morphia suppositories, ¼ or ½ grain, in rectum, which have a better local effect, and upset the system less, than narcotics by the mouth. Hæmorrhage may have to be stopped by tampon smeared with solid perchloride of iron ʒj in glycerine ʒj, and plugging, or by actual cautery.

In all cases of early disease of cervix where malignancy is diagnosed, supra-vaginal amputation should be performed. Total extirpation (vaginal hysterectomy) questionable.

In cancer of the body and cervical canal, curetting sometimes gives temporary relief. Of escharotics bromine or chloride of zinc the best. Chian turpentine useless. The removal of cauliflower excrescence, in early stage, to be recommended.

UTERINE DISPLACEMENTS.—The uterus may be displaced in several ways, giving rise to much discomfort.

1. **Prolapsus and Procidentia.**—Terms employed to designate a descent of the womb as it exists in two different grades. By "Prolapsus" (*Prolabor*, to glide forward) is meant that condition in which uterus falls below its natural level in pelvic cavity. By "Procidentia" (*Procido*, to fall down) is signified the protrusion of uterus beyond vulva. Causes of both conditions the same. Suffering varies chiefly in degree.

SYMPTOMS. Sense of fulness or pelvic weight. Bearing-down pains. Backache. Leucorrhœa. No impediment to menstruation; nor to conception, as uterus is generally easily replaced when patient is in bed. Irritation of bladder and rectum. In prolapsus, uterus found depressed, perhaps resting on upper floor of perineum. In procidentia, a round or pear-shaped tumour, with os uteri visible at its centre, seen projecting beyond vulva. Labia uteri often excoriated. Vaginal walls may be dry and harsh and cracked; perhaps, ulcerated.

TREATMENT. *General rules*:—Artificial support to be afforded by Hodge pessary after reposition of uterus. Tone to be given to round and broad ligaments of uterus, to relaxed vaginal walls, to perineum, by astringents (tannic acid); or if torn, by restoration of perineum. Removal of complications,—uterine congestion or hypertrophy, cough, constipation, &c.

To effect reposition in procidentia:—Patient to be placed on left side, with knees well flexed: greased uterus to be gently pushed up, remembering pelvic axis. Woman may rest on hands and knees, with head lower than pelvis, so as to remove superincumbent weight of intestines: womb to be then replaced and fixed by a Zwancke's pessary. Patient kept quiet in bed.

To support abdominal viscera:—An abdominal belt, "The Narrow Double Belt," or "Sling Belt," made by Russell, George Street.

To give tone to tissues:—Tonics. Vaginal injections, 425. Astringent pessaries, 423. Cold salt water hip baths. Nourishing diet.

Operations to support uterus:—Removal by dissection of one or more longitudinal strips of vaginal mucous membrane, bringing edges of wound together with wire or gut sutures (*colporrhaphy*). Paring the sides and posterior wall of lower part of vagina, and keeping raw surfaces in contact, so as partly to close vulval opening (*perineorrhaphy*).

2. **Retroflexion and Anteflexion.**—Retroflexion (*Retro*, backwards; *flecto*, to bend) consists of a bending backwards of uterus, at part where the neck joins the body; so that fundus is found between cervix and rectum, os uteri being in normal position. Uterus becomes shaped like a retort.—In anteflexion (*Ante* forwards; *flecto*), fundus rests on bladder.

SYMPTOMS. Almost absent when displacement is slight uterine structures flabby, and pelvic cavity more than ordinarily capacious. Considerable suffering where angle of flexion is acute, uterine ligaments unduly stretched, circulation through uterus impeded, and fundus immovably pressed on rectum or bladder.

Dull wearying backache. Tenderness about groins and inside of thighs. Sense of fulness in rectum or bladder. Pain from sexual intercourse: fecundation prevented. Dysmenorrhœa. Nausea, loss of appetite, mental depression. Hysteria. Displacement recognised with certainty by use of uterine sound.

TREATMENT. Replacement by pushing fundus upwards, with or without assistance of uterine sound, and subsequent fixing by Hodge pessary of a length which will prevent either descent of uterus in pelvis or knuckling over of fundus. Anteflexion rarely requires treatment. Uterus normally anteverted.

3. Retroversion and Anteversion.—In retroversion (*Retro*, backwards; *verto*, to turn) uterus lies almost transversely in pelvic cavity; with fundus towards hollow of sacrum, and os uteri under pubic arch. The opposite condition, anteversion (*Ante*, forwards; *verto*) is characterised by fundus lying towards bladder, and os uteri in cavity of sacrum. These differ from (2) only in degree.

SYMPTOMS. Backache, bearing down. Leucorrhœa. Menstruation not interfered with: impregnation not absolutely prevented. In retroversion, pressure of labia uteri on urethra may cause retention of urine—a common result in pregnancy.

TREATMENT. Replacement of retroverted organ and fixing with Hodge pessary. Anteversion to be left alone. Quinine. steel, and nux vomica, 380. Mineral acids with strychnine, 378. Nourishing food. Injections of alum and sulphate of zinc, 425. Tannin pessaries, 423. Cold sea-water baths. Avoidance of over-exertion, straining at stool, &c. In displacement during pregnancy, reposition best effected with patient resting on hands and knees: chloroform may be required. Use of catheter.

4. Inversion of Uterus.—From *In*, in; *verto*, to turn. Synon. *Inversio Uteri.*—The uterus is literally turned inside out. Fundus descends through os uteri; mucous lining of cavity of womb becoming the external covering of tumour, which projects into vagina and generally through vulva. Usually happens directly after labour; but has followed the expulsion of a polypus.

SYMPTOMS. Severe nervous shock. Great depression and faintness. Bearing-down pain. Nausea and vomiting. Perhaps, hæmorrhage. Sometimes death from shock, especially if the labour has been difficult. Where the accident has not been detected at time of occurrence, patients have gone on for months, or even years, suffering from bad health, anæmia, repeated attacks of hæmorrhage, sacral and pelvic pains, &c. Liable then to be mistaken for a polypus by the inexperienced. Bimanual exploration shows absence of uterus above. Finger in rectum also shows the same. Sound will pass into uterus, which is more or less elongated in case of polypus; in inverted uterus sound cannot pass at all.

TREATMENT. When occurring directly after labour, placenta to be peeled off if it remain attached. Uterus to be firmly grasped, and steady pressure made in upward direction so as to reduce that portion first which has last descended: patient may be under influence of chloroform. In chronic cases, attempts at replacement may have to be gently persevered with even for days, by means of a repositor with india-rubber bands, and a cup which fits on the inverted fundus, pressure being kept up in direction of pelvic axis. In cases where the uterus has been removed by écraseur in mistake for a polypus, no bad result has followed when kept aseptic.

UTERINE HÆMORRHAGE.—Synon. *Hæmorrhagia Uteri; Metrorrhagia.*—Hæmorrhage from uterus at other than catamenial periods. Arises chiefly from:—Cancer of uterus. Fibroid tumours or polypi. Endometritis. Inflammatory diseases of the cervix. Congestion of the ovaries. Moles.

Often the precursor of abortion. In latter months of pregnancy, indicative of separation of the placenta; or of placenta prævia.

TREATMENT. See *Menorrhagia.*

UTERINE TUMOUR.—Synon. *Fibroid Disease; Fibro-myoma of Uterus.*—Of all organic diseases of uterus first manifesting themselves during period of sexual vigour, non-malignant tumours are the most common.

1. Fibroid Tumours.—Consist of fully developed connective tissue, with more or less plain muscular fibre, limited by fibrous capsule: the slower the growth the firmer the tissue. Are single or multiple. Sometimes attain an enormous size. May be developed in any part of uterus. Classified as sub-peritoneal or surface tumours, when just beneath peritoneum; interstitial or intra-mural tumours, when embedded in uterine walls; and submucous or intra-uterine tumours, when pressed into cavity of womb.

SYMPTOMS. Sub-peritoneal variety often not well-marked till of sufficient size to encroach on pelvic viscera, or to be detected through abdominal wall, when symptoms more prominent. Menstrual irregularities. Quite small intra-uterine growths frequently cause menorrhagia. Dull, aching, throbbing pains. Sense of weight and bearing down. Cramp or numbness in one or both thighs. Difficulty in voiding or in retaining urine. Constipation: hæmorrhoids. Enlargement and tenderness of breasts. Leucorrhœa. Anæmia, if hæmorrhage considerable. Attacks of severe hæmorrhage in intra-uterine growths: occasionally, expulsive pains. Tumour detected on careful abdominal manipulation, and vaginal examination.

TREATMENT. In a large number of cases, the less fibroid tumours are interfered with the better. Radical cure of mural fibroids by enucleation, or sub-peritoneal variety by abdominal section not without danger. The intra-uterine variety if polypoid can be removed with safety by those experienced—(see below). *For control of hæmorrhage:*—Corrosive sublimate, 27. Gallic acid, 103. Rhatany. Ergot. Oxide of silver and Indian hemp, 47. Iron alum, 116. Bromide of potassium. Incision of os and cervix uteri. Incision into exposed part of tumour, where it can be easily reached from vagina.—*For relief of pressure on pelvic viscera:*—Gentle elevation of tumour into false pelvis.—*For cure of suffering due to congestion or œdema of growth:*—Bromide of potassium, 42. Kreuznach waters, 484. Woodhall Spa.

2. **Polypus of Uterus.**—Attached to inner surface of uterus by a pedicle or neck. . May occupy uterine cavity, or be in vagina and merely attached to uterus by pedicle. In old age apt to be malignant.

TREATMENT. *If in vagina:*—Tumour to be removed by dividing pedicle with scissors or wire-rope écraseur. *If in utero:*—Os uteri to be fully dilated with sea-tangles or sponge-tents (426), and tumour subsequently removed by division of pedicle with wire-rope écraseur. Sometimes, can be taken away by torsion, when pedicle is slender. If hæmorrhage great and tumour small, uterus must be dilated by Hegar's dilators and cavity explored. Sometimes uterus found full of small polypoid masses (villous endometritis), and these must be removed by curetting the entire lining of uterus and subsequent application of iodine liniment (B. P).

3. **Cysts of Uterus.**—Cysts or closed sacs, filled with mucus or serum, are occasionally developed in substance of uterus, or just beneath internal mucous lining, or under external serous covering. Sometimes, one part of uterus invaded by cystic growth, while another is the seat of an ordinary fibroid tumour. These cysts only give rise to inconvenience when they attain such a size as to admit of their detection. If within reach, they may be punctured: if pediculated and pressing into uterine cavity (*mucous polypus*), they can be twisted off after dilating the os uteri with sponge-tents.

UTERINE ULCERATION.—Synon. *Erosion: Granular Inflammation.*—The term "ulceration" has for long been incorrectly applied to certain morbid conditions very commonly found about the cervix:—

1. **Simple Abrasion.**—Synon. *Excoriation*, or *Erosion, of Labia Uteri.*—The squamous epithelium normally covering the cervix uteri is shed, and this surface is covered by structures normal within the cervix (*columnar* epithelium), and is therefore like an extension downwards of the mucous membrane of the cervical canal. It contains glands lined with columnar epithelium. It

differs from early cancer in the fact that the epithelium on its surface and lining its glands, form a regular single layer, and present no aberrant forms. It conveys a "velvety" feel to the touch. Extent of abrasion easily ascertained with speculum.

SYMPTOMS. Leucorrhœal discharge. Pelvic and sacral pains. Ovarian irritation. Indigestion: flatulence, with irregular action of bowels. Irregular menstruation. Depression of general health.

TREATMENT. *Locally*:—Hot water douches (110°), twice daily with douche can. Iodide of lead and belladonna, or acetate of lead and opium, pessaries, 423. New growth should be destroyed with acid nitrate of mercury, and after a week a succession of some ten or a dozen applications of solution of nitrate of silver, sulphate of copper, iodine or carbolic acid, will effect a cure. Applications should be made every five or six days, when the catamenia are absent. Scarification of labia, or application of three or four leeches where there is congestion.

Generally:—Nourishing diet. Tonics. Perchloride of mercury and bark. Cod liver oil. Moderate exercise in open air.

2. Ectopion of Cervix.—This condition sometimes mistaken for erosion. It is really due to bilateral tear of the cervix uteri at confinement, and subsequent turning outwards of lips, exposing cervical mucous membrane.

SYMPTOMS. Thick muco-purulent discharge. Pelvic pains. Backache. Menstrual flow, sudden and excessive. Anæmia: headache, neuralgia, irregular action of bowels, loss of appetite, &c. Debility: mental depression. Pains increased by walking or sitting upright. Reflex irritation of breasts, bladder, and rectum. Frequent abortion.

TREATMENT. Cured by Emmet's operation. Slight fissures do not require repair and are usually attended with no symptoms. Tonics. Nourishing food.

True Ulcers.—1. Syphilitic Affections.—*Primary syphilitic sores* very rare. Chancre may be situated on labia, within canal of cervix, or on outside and upper part of cervix.—*Secondary syphilitic affections of uterus* not uncommon. Chief symptoms,—Hypertrophy and induration of vaginal portion of cervix. Abundant muco-purulent discharge from uterus and vagina. Patches of abrasion, or of ulceration, on labia uteri. Menstrual irregularities,—often menorrhagia. Evidence of disease in distant parts,—loss of hair, sore throat, cutaneous eruptions, nodes, &c. Treatment the same as for syphilis generally.

2. Corroding Ulcer.—A severe, extremely chronic, disease. Very rare: usually commences about "change of life." Must be distinguished both from rodent ulcer and typical cancer (J. Williams).

SYMPTOMS. Ulceration begins gradually and extends slowly. As it eats away affected tissue, complaint made of pelvic heat and discomfort; thin serous discharge, occasionally streaked with blood. Debility, pallor, indigestion. Subsequently,—burning pains; attacks of hæmorrhage. On examination, an irregularly shaped ulcer found, with ragged or indurated edges: sore excavated, presenting a dry and glossy, or a pulpy surface. Uterus not fixed, as in cancer. Sometimes, whole of cervix destroyed. Disease eats its way into body of uterus; so that entire muscular structure gets destroyed, unless death first occur from hæmorrhage, peritonitis, uræmia from obstruction of lower end of ureters or damage to bladder, or exhaustion.

Treatment. Excision, if disease be limited to cervix: otherwise, actual cautery, or potential caustics. Sedative vaginal injections, 425. Opium and belladonna pessaries, 423. Arsenic, 52. Cod liver oil. Tonics. Narcotics. Nourishing food.

VACCINIA.—From *Vacca*, a cow. Synon. *Variola Vaccinia; Inoculated Cow-pox.*—A disease produced by inoculation with the virus of cow-pox, such disease affording protection against the contagion of small-pox. Included by Willan in the *Vesicular* order of skin diseases.—See *Cow-pox.*

VAGINAL ATRESIA.—From *Vagina*, a sheath or scabbard.—Independently of cases where, from arrest of development, vagina is entirely absent, or is considerably malformed, examples of occlusion can be arranged under one of three heads:—

(1) Those where there is a morbidly tough and persistent hymen. If the membrane cannot be ruptured with finger, it must be divided; reunion being prevented by use of oiled lint. (2) Where the hymen is hypertrophied and imperforate, so as completely to close vaginal canal from urethra to fourchette, preventing escape of menstrual fluid. A longitudinal or crucial incision to be made through obstructing membrane. Under such conditions, operation attended with considerable danger, if not kept absolutely aseptic: fatal peritonitis, endometritis, or pyæmia not uncommon. And (3) cases of imperforate vagina; whether due to congenital adhesions between opposite walls, to stricture in consequence of inflammation, or to cicatrices consequent on injury. A careful dissection often required to make canal patulous.

VAGINAL PROLAPSUS.—From *Vagina*, a sheath; *Prolabor* to fall, or slip out.—A descent, more or less complete, of the vagina.

Symptoms. Protrusion of the vagina usually accompanied by prolapsus uteri, though it may occur alone. Vagina is shortened and widened, and hence bulging of wall, especially if perineum is torn. If entire circumference of vaginal mucous membrane be prolapsed, a projecting tumour is found at vulva. Surface may be inflamed and excoriated. Bladder rendered irritable: often emptied with difficulty.

Cases of partial more common than of complete prolapsus. When anterior wall is alone affected, posterior wall of bladder is drawn down—*Vaginal cystocele.* The posterior wall of vagina nd anterior wall of rectum may be protruded— *Vaginal rectocele.* n the one case, urine is apt to accumulate in pouch formed by ladder ; in the other, a pocket forms, in which hard fæcal masses re retained, causing constipation and sense of weight.

TREATMENT. In slight cases a properly fitting Hodge essary which must be long enough to raise the uterus and elonate vagina. This, with use of tannic acid pessaries (424), keeping owels acting without straining, and general tonics, will suffice. f vaginal outlet so large that Hodge pessary is not retained, *erineorrhaphy* will be necessary.

Alexander's operation, for shortening round ligaments, ifficult and dangerous, and only remedies one of the many auses of prolapsus, which are as follows :—Roomy pelvis, rapid nd frequent child-bearing, subinvolution of uterus and vagina, aralysis of circular fibres of latter, great stretching or tearing f perineum. Extra weight of subinvoluted uterus and want of upport below, cause, in a debilitated subject, gradual stretching f uterine ligaments and descent of uterus with bulging of vaginal alls.

VAGINAL TUMOUR.—These growths may consist of :—

Polypus of vagina. Fibrous or sarcomatous. Very rare. Prouces leucorrhœa, bearing down, irritability of bladder, &c. ay be cured by excision. If any vessel be felt pulsating in edicle, a ligature should be applied, and tumour snipped off ust below it. Fibrous tumours :—Sometimes found imbedded n submucous tissue of vaginal wall. Seldom troublesome : may erhaps cause hæmorrhage. Growth can be shelled out with ngers or handle of scalpel, after division of mucous membrane overing it.

Mucous follicular cysts. May be superficial : formed by dilated ollicle, glands of Bartholin or their ducts, excretory orifice of hich has closed. Deep-seated cysts produced by accumulation f contents of interstitial or closed follicles. Either form to be ured by puncture, and application of nitrate of silver to inner alls.—See *Vulval Tumours* (cystic).

Cancer of vagina. Carcinoma or epithelioma may affect vagina. t is usually secondary. Can only be confounded with syphilis. s not amenable to syphilitic treatment. Bleeds far more readily. —See *Uterine Cancer.*

VAGINISMUS.—From *Vagina,* a sheath ; terminal *-ismus.*— n involuntary spasmodic closure of the sphincter muscle of the agina, with such excessive supersensitiveness of the surroundng tissues as to form a complete barrier to coition (Marion ims).

May exist as a simple or complicated state. In the first case, o local structural change. Excessive tenderness of vaginal rifice, and of hymen or its remains where there may be a ssure. Slightest touch causes great agony. In second form, in addition to supersensitiveness, inflammation of follicles abo vulva; or hyperæsthesia of entire vaginal mucous lining; some uterine displacement. Essential remedy consists in ı moval of hymen, incision of vaginal orifice, and subseque full dilatation with graduated bougies under chloroform.

VAGINITIS.—From *Vagina*, a sheath; terminal *-itis.* I flammation of the vagina may be acute or chronic:—

Morbid action not always limited to mucous membran tissues beneath sometimes involved, causing distressing sufferin Arises from violence; pressure of fœtal head in lingering labou or may be due to gonorrhœa, cold, sexual excess, acrid di charges, want of cleanliness with depression of vital powers, &

SYMPTOMS. Pain and sense of heat in vagina. Itching abo vulva. Irritability of bladder. At first, mucous membrane d and swollen: secretion of mucus checked. Then, creamy mucu or much purulent matter, or pus is poured out: pain diminish Backache; pains about hips and upper part of thighs; sense weight or bearing-down; smarting and tenderness. Disea runs its course in seven or eight days, or subsides into chron form.—If submucous tissues be involved, there may be rigor fever, headache, rapid pulse, severe throbbing pains. Suppur tion: abscess bursts into vagina, or pus burrows, making i way to perineum on both sides of labia.

TREATMENT. Hot hip baths. Vaginal injections of war water. Pessaries of oxide of zinc and belladonna, or of aceta of lead and opium, 423. Confinement to bed or sofa. Cast oil. Cubebs. Fish diet: eggs, milk, tea, demulcent drinks.- *If suppuration occur:*—Ammonia and bark, 371. Quinine wit mineral acids, 379. Opium or morphia, 343. Opium and bella donna, 344. Fomentations or linseed poultices to vulva. Ab scesses to be opened if they point. Astringent injections, 425 Tannic acid, or sulphate of zinc, or acetate of lead pessarie 423. Brushing vaginal walls with solution of nitrate of silve iodine, or solution of carbolic acid in glycerine (gr. 10 to fl. oz. j)

VARICELLA.—The dim. of *Variola* (*Varius*, spotted).—Th mildest of the eruptive fevers. Often classed with the *Vesicula* skin diseases.—See *Chicken-Pox.*

VARICOCELE.—From *Varix*, a dilated vein; κήλη, a tumour. Synon. *Cirsocele* (from Κιρσὸς, a varix; κήλη).—A varicose condition of the veins of the spermatic cord may arise from any cause which retards upward flow of blood,—as tumours, trusses, constipation, corpulence, frequent straining in erect posture, &c. Spermatic veins on left side most frequently affected, owing to their greater length, and greater liability to pressure from a distended colon.

SYMPTOMS. Swelling pyriform with base on testis. Veins can be rolled under fingers, like worms in a bag. Weight, and aching about groin and loin. Uneasiness or pain about scrotum. Neuralgia of testicle, sometimes atrophy. Mental depression.

TREATMENT. *Palliative :*—A regular action of bowels to be ensured by attention to diet, mild aperients. Improvement of general health : mineral acids, nux vomica, &c. Bathing scrotum with salt water night and morning. Firm support with a suspensory bandage. *Radical cure :*—If operation necessary, excision of the veins with antiseptic precautions the most satisfactory. Subcutaneous ligatures, &c. uncertain.

VARIOLA. — From *Varius*, spotted. Synon. *Pestis Variolosa : Small-Pox.*—A very contagious eruptive fever ; the frequency and severity of which have been greatly diminished by the discovery of vaccination. Included by Willan in the *Pustular* order of skin diseases.—See *Small-Pox.*

VASCULAR TUMOURS OF URETHRAL ORIFICE. — Synon. *Caruncle ; Urethral Hæmorrhoids.*—Not uncommon in females: very rarely, vascular tumours have been found at orifice of male urethra.

In women, external orifice of meatus urinarius is the most frequent seat of vascular tumour. Excrescence varies in size from that of a pin's head to that of a date-stone. Exquisitely sensitive, often causing irritability of bladder with pain on passing water. To be cured by excision and subsequent application of Paquelin's cautery to submucous base under influence of cocaine. Patient to be in position for lithotomy.

VENEREAL DISEASE.—From *Venus*, the Goddess of Love. A term generally applied to those disorders which result from impure connexion.—See *Gonorrhœa ; Syphilis*, &c.

VERRUCÆ.—From *Verruca*, a wart. Synon. *Vegetations ; Warts.*—Consist of collections of hypertrophied cutaneous papillæ ; each papilla being separate and merely covered with thin cuticle, or a bundle of papillæ being bound together by an excess of dry and hard scaly epithelium.

TREATMENT. Excision and application of styptic or cautery. Nitrate of silver. Glacial acetic acid. Acid solution of nitrate of mercury. Nitric acid. Chromic acid, 196.

VERTIGO.—From *Verto*, to turn round. Synon. *Giddiness ; Swimming of the head.*.—A transitory sense of giddiness, of whirling round, or of falling. Surrounding objects appear to be in motion ; sufferer loses his balance for a moment or two, and is in danger of falling unless he can grasp some object. Usually followed by headache ; occasionally, by nausea.

Often a symptom of incipient disease of brain. May be due to disease of ear (see Menière's disease). Sometimes betokens general weakness ; or a poison in blood, as opium or tobacco or alcohol ; or some cardiac, hepatic, renal, gastric, or intestinal affection. Any disturbance of cerebral circulation will induce giddiness. In mild form of epilepsy, giddiness, and a fit o absence (epileptic vertigo) are prominent symptoms. Swimmin in head a forerunner of apoplexy and paralysis. Paroxysma attacks not uncommon in the aged, either without obvious caus or from disease of coats of cerebral arteries, or from passiv venous congestion.

Tonic and antispasmodic remedies more frequently called f than those of a lowering nature. Bromide of potassium, sal cylate of sodium. Chalybeates when there is anæmia. Purga tives, spare diet, blisters behind ears, out-door exercise if ther be evidence of active arterial congestion. Small doses of corr sive sublimate in simple vertigo of old people. Drinking stron tea to be avoided.

VESICAL INFLAMMATION. — From *Vesica*, the urinar bladder; *Inflammo*, to inflame. Synon. *Cystitis: Inflammati Vesicæ*. — Inflammation of the bladder may be acute o chronic:—

1. **Acute Cystitis.**—From Κύστις, a bladder; terminal *-itis.*— severe disease, which may rarely arise idiopathically; may supe vene in a severe form after operations, lithotrity, or from irrita tion of a calculus, external injury, gonorrhœa, disease of pelvi viscera, &c. Mucous lining of neck and lowest part of bladde more frequently attacked than all the coats.

Symptoms. Shivering. Pain over bladder. Heat of urethra constant desire to pass urine, which comes away in small quan tities. High fever. Nausea. Constitutional disturbance: ment depression. Bladder can perhaps be felt as a small rounde tender tumour. Severe pain, extending to perineum and dow thighs: increased by abdominal pressure, rectal or vaginal ex amination. Tenesmus.—Unless resolution occur,—unbearabl pain. Constant calls to micturate; urine expelled in drops; o retention. Urine becomes fetid and alkaline: contains shred of fibrin entangling pus and blood corpuscles. Great prostration. Cold clammy sweats. Low muttering delirium. Fatal exhaustion.

Treatment. Liquor potassæ min. xv three times a day in milk or almond emulsion. Laxatives. Opium. Opium and belladonna, 344. Morphia suppositories. Hot hip baths. Fomentations. Linseed poultices. Mucilaginous fluids. Catheterism. Cream, raw eggs, essence of beef, &c., as soon as indications of exhaustion commence.

2. **Chronic Cystitis.**—This form of inflammation common. Sometimes follows an acute attack: more frequently due to gout, retention of decomposing urine, irritation of urine charged with saline diuretics, foreign substances in bladder, or to extension of inflammation from rectum or uterus, &c.

Symptoms. Often slight. Feeling of indisposition. Increased sensibility of bladder walls. Frequent micturition. Urine scanty, with perhaps a small quantity of mucus or pus: sometimes loaded with viscid ropy mucus.

TREATMENT. Catheterism, unless bladder can be thoroughly emptied at will. Washing out bladder with ℥iv carbolised water, ½ gr. to ℥j and 100°, only injecting ℥j at a time; or with one of the following solutions:—Acetate of lead, gr. 1 in ℥iv; dilute nitric acid, min. viij in ℥iv; acetic acid, min. xvj in ℥iv; tannic acid, gr. 4 in ℥iv; nitrate of silver, gr. 1 in ℥iv; glycerinum boracis, ʒss in ℥iv. Water, 100°. *Internally:* Liquor potassæ and henbane. Opium and belladonna suppository, 340. Oxide of zinc and belladonna vaginal pessaries, 423. Belladonna plaster to sacrum. Benzoate of ammonia, 40. Infusion of bearberry (infusum uvæ ursi). Infusion of buchu. Decoction of pareira. Decoction of couch-grass. Cubebs. Oil of sandal-wood. Demulcent drinks; barley water, infusion of linseed, &c. Animal food: milk or cream: raw eggs.

VESICAL IRRITABILITY.—Irritability of the bladder is said to exist when there is an unnaturally frequent desire to pass urine. May arise from organic disease of kidneys, bladder, prostate gland, or urethra; vascular tumour of female urethra; pressure of enlarged or displaced uterus; irritation of hæmorrhoids, or intestinal worms; presence of a tumour or calculus in bladder; or simply from some irritating constituents in the urine or functional derangement of kidneys, bladder, stomach, or nervous system.

SYMPTOMS. Desire to micturate comes on suddenly and frequently: urine may have to be passed every fifteen or thirty minutes. Inability to resist desire: if attempted, uneasiness or aching pain. Total amount of urine seldom increased in quantity. Bladder diminishes in size. General health suffers from the annoying irritation.

Urine always to be examined. If preternaturally acid or alkaline; if loaded with urates, phosphates, or oxalates; or if it contain pus, albumen, sugar, or any other morbid material,—disease must be traced to its origin.

TREATMENT. Belladonna or atropine in full doses. Dilute nitro-hydrochloric acid, belladonna, and pareira, 378. Solution of potash and buchu, 69. Ferruginous tonics. Nux vomica or strychnine. Decoction of couch-grass or triticum repens (oz. 1 of underground stem to water fl. oz. xx). Opiate or belladonna suppositories, 340. Oxide of zinc and belladonna pessaries (for women), 423. Tincture of cantharides. Tincture of benzoin. Infusion of bearberry. Colchicum. Cod liver oil.—Warm or tepid salt water baths. Avoidance of stimulants. Substitution of cocoa for tea and coffee. Mucilaginous diluents.—See *Enuresis.*

VESICAL PARALYSIS.—The muscular coat of bladder rarely paralysed from influence confined to this viscus—*e.g.*, hypertrophy of prostate, atony of bladder. True paralysis always due to disease in cerebro-spinal centres, inflammation of brain, paraplegia, &c., inducing simultaneous loss of power in other organs; typhus or other fever, or from constitutional debility. Liable to occur in the course of any acute disease in advanced life, when unless discovered and treated at once it is a serious complication.

SYMPTOMS.—Unlike the rectum, the bladder retains its contents when paralysed. When distension becomes great, urine dribbles away by urethra: hence, incontinence of urine often an indication of retention. Enlargement in hypogastrium and bladder felt above symphysis pubis. Urine loaded with mucus: alkaline: offensive ammoniacal odour. Pain at neck of bladder: as distension gets great, the walls lose their sensibility. Severe constitutional disturbance. Frequently, death from coma or exhaustion.

TREATMENT. Use of catheter: bladder to be slowly but thoroughly emptied. Tepid or cold water injections. Ergot of rye. Strychnine or nux vomica. Aloetic purgatives. Hip baths. Galvanism, one pole over lumbar vertebræ, the other pole in the bladder for ten minutes, cold douche, or blisters to lower part of spine.

When disease of nervous centres exists, symptoms can only be relieved as they arise.—See *Enuresis*.

VESICAL SPASM.—From *Vesica*, the urinary bladder. Spasmodic attacks of pain in bladder. May arise from vesical calculus or tumour; diseases of rectum and uterus; abscess of kidney; ulceration or other organic disease of bladder, prostate gland, &c.; abnormally acid urine; excessive venery; hysteria; or from use of irritating diuretics—cantharides, oil of juniper, savin.

SYMPTOMS. Severe pain at lower part of abdomen, extending to urethra. Involuntary micturition: sometimes retention of urine with urgent desire to micturate. Tenesmus.—When of long continuance, death has resulted with symptoms of suppression of urine.

TREATMENT. *Relief of spasm:*—Hot baths. Poppy-head fomentations. Linseed poultice with camphor to perineum. Opium and belladonna suppository, 340. Ether and opium draughts, 85. Mucilaginous drinks.

Removal of cause:—Colchicum. Quinine. Citrate of potash. Regulation of diet: avoidance of stimulants, tea, and coffee. Warm clothing. Avoidance of violent exercise or sexual intercourse. Appropriate remedies for renal abscess, calculi, &c.

VESICAL TUMOURS.—From *Vesica*, the urinary bladder.—The growths which may be developed on the walls of the bladder are:—Warty or polypoid fibrous bodies (rare); villous or vascular growths (common); and malignant tumours,—epithelioma; scirrhus; and encephaloid (very rare).

SYMPTOMS. Whatever the nature of the tumour, the symptoms resemble those caused by a calculus. Frequent micturition. A painful sense of inability to empty bladder. Urine bloody, or purulent, or ammoniacal and loaded with mucus. In malignant disease, there is loss of weight.

Villous tumour is most common form, it has no invading or reproductive power, and is not malignant but papillomatous. The epithelium homologous, not growing within the connective tissue basis. The true cancers may result from extension of disease from rectum, prostate, uterus, or vagina. Suffering very great. Perhaps cancer-cells may be found in urine.

TREATMENT. Relief of prominent symptoms. Narcotics freely, to ease pain. Astringents, to check hæmorrhage. Injections daily, of alum, gr. 10 ; iron alum, gr. 10, or infusion of matico, ℥ij, every three or four hours ; or nitrate of silver, gr. 1, water, ℥iv, allowing ℥j to remain. When hæmorrhage is considerable inject iced infusion of matico or tincture of perchloride of iron, ʒss in ℥iv of water.

Polypoid, fibrous, and pendulous villous growths, have been removed from bladder.

VILLOUS CANCER.—From *Villus*, shaggy hair.—A variety of medullary and perhaps of epithelial cancer, occurring most frequently on mucous membrane of urinary bladder.—See *Cancer*.

VITILIGO.—From *Vitulus*, a calf ; terminal *-igo*.—A rare disease, said to produce a glistening veal-like appearance of skin.—Two varieties :—*Vitiligoidea plana* and *V. tuberosa*, which may occur separately or combined. In former, irregular yellow patches are observed, slightly elevated and hard ; in latter, isolated or confluent tubercles, ranging from the size of a pin's head to that of a large pea ; generally symmetrical ; upper eyelids a favourite seat. Possibly there may be some connection between this skin disease and derangement of the liver.

Vitiligo sometimes confused by authors with lepra alphoides, or with lupus non-exedens. Other writers seem to regard the appearances as merely due to a diminution of pigment, without any change of texture ; making it of same nature as leucoderma. No remedy for it at present known.—See *Xanthelasma*.

VOMITING AND RETCHING.—Synon. *Emesis ; Sickness of the Stomach.*—Vomiting (from *Vomo*) is due to forcible and repeated contractions of abdominal muscles, the diaphragm being fixed by closure of the glottis ; the stomach is thus compressed against the diaphragm, and by this force, together with its own contraction, the pylorus being closed and the cardiac sphincter relaxed, the gastric contents are expelled upwards. In retching there are fruitless attempts to empty the stomach, the cardiac sphincter being contracted ; or the stomach empty.

Sickness arises in many diseases — *i.e.*, cerebral, spinal, pulmonary, renal, biliary, pancreatic, gastric, intestinal, or uterine and ovarian disorders. It may be due to sympathetic irritation of pregnancy ; to hysteria ; to irritation of pneumogastric nerve. To ingestion of poisonous or irritating substances : drunkenness. To blood-poisoning, as in septicæmia : continued and eruptive fevers, especially at their onset. To acute or chronic peritonitis, particularly if gastric peritoneum be involved ; or to the pressure of the fluid in ascites. To intestinal obstruction from ileus, intussusception, strangulated hernia, &c. Or it may occur as an idiopathic affection,—no other morbid state being discoverable. In pyloric obstruction with dilated stomach, contents undergo fermentation and are acid. Frequently contain *Sarcinæ*.

SYMPTOMS. Vary with the cause. Some prominent distinctions are shown in following table :—

Gastric or Hepatic Vomiting.	*Cerebral or Sympathetic Vomiting.*
1. Preceded by nausea, which is relieved, at all events, temporarily, by the discharge of the stomach's contents.	1. Little or no nausea. Retching continues, often in spite of stomach being empty. Directly any fluid or solid is taken, it is rejected.
2. Vomit consists of partially digested food, biliary matter, and offensive secretions. Sometimes acid water ; pus ; blood.	2. Vomit consists of unaltered food. Of frothy mucus. Never pus or blood. Sometimes a considerable quantity, sometimes only a tinge of bile.
3. Loss of appetite, or even a disgust for food.	3. Appetite remains. Frequently a desire for food immediately after vomiting.
4. Tongue coated ; breath foul ; conjunctivæ often yellowish ; headache secondary in point of time.	4. Tongue clean ; breath pure ; conjunctivæ colourless or only injected ; headache primary.
5. Headache ; chiefly frontal, perhaps not severe on right side, seldom lasting more than twenty-four hours, and often relieved by vomiting.	5. Headache severe : chiefly over vertex and occiput. May be constant for days. May be altogether absent.
6. Griping abdominal pain ; fetid eructations ; diarrhœa ; unhealthy watery stools.	6. No eructations of foul air. Generally, obstinate constipation ; or stools solid and healthy.
7. Retching ; increased salivation ; more or less abdominal tenderness ; faintness or exhaustion.	7. Stomach emptied without effort ; no increase of saliva ; no abdominal tenderness ; little or no fatigue or faintness after vomiting.
8. Frequently an increase of vomiting at 4 to 6 A.M., especially in hepatic disease.	8. Perhaps, the most severe attacks are experienced on first rising or changing position.

TREATMENT. *General remedies:*—Attention to diet: bland simple nourishment in very small quantities at a time. Cold water; ice to suck; cherry water ices; milk and water; milk and soda water; koumiss, 15*a*; gruel; milk arrowroot; water arrowroot with small quantities of brandy; beef tea; veal, chicken, or mutton broth; white fish; weak iced brandy and water; champagne; sparkling Moselle or Hock; light Hungarian wines. Nutrient enemata, 21, 23. Aperient enemata, 188, 189, 190. Emetics and sometimes stomach pump very necessary. Calomel in purgative doses (grs. 5 to 10). Calomel, blue pill, or mercury with chalk, as alteratives. Taraxacum, 227, 228. Seidlitz powders, 169. Podophyllum, 160. Carbonate of magnesia. Tartaric or citric acid. White bismuth, 65. Charcoal biscuits. Coffee. Carbonic acid. Citrate of ammonia, potash, or soda in effervescence, 348, 362, 403. Dilute hydrocyanic acid, 70, 86, 377. Laurel leaf water (aqua laurocerasi, min. x to xxx). Dilute nitro-hydrochloric acid, 378. Sulphurous acid. Creasote, 41, 90. Carbolic acid. Hyposulphites or sulpho-carbolates if sarcinæ present in vomit. Infusion or tincture of calumba. Cinnamon. Spirit of chloroform. Three or four drops of chloroform on a lump of sugar. Nitrate of silver. Sulphate of copper. Oxide of silver, 47. Salicin, 388. Sulphite of soda, 48. Small doses of ipecacuanha wine (one or two minims hourly). Opium. Belladonna. Pepsine, 420. Nux vomica or strychnine.

Locally:—Sinapisms over epigastrium. Turpentine stupes. Blisters. Linseed poultices. Wet compress, 136. Ice over epigastrium. Friction with stimulating liniments. Chloroform on lint. Extracts of belladonna and poppies, 297. Dry cupping. Leeches.

Sympathetic vomiting, in pregnancy, uterine, or ovarian disease, &c.:—Ice to suck freely. Soda water. Champagne; sparkling Hock or Moselle. Pepsine, 420. Tincture of iodine in small doses. Bromide of potassium. Strong coffee before rising in the morning. Infusion of cloves. Lemon juice. Oxalate of cerium (gr. 3 to 5 in powder or pill). Drop doses of ipecacuanha wine every four hours. Rectified pyroxylic spirit. White bismuth. Laurel water. Effervescing draughts with calumba, cascarilla, &c. Sinapisms, stimulating liniments, turpentine stupes, or repeated flying blisters to epigastrium. Dilatation of cervix uteri. Leeches to os uteri, if there be congestion: nitrate of ilver, if there be excoriation or ulceration. Vaginal pessaries of odide of lead and belladonna, 423. In very severe cases, the nduction of premature labour. Subcutaneous injection of norphia.

Hysterical vomiting:—Sumbul, 369. Nux vomica, or strychnine, 87, 407, 408. Assafœtida, 89, 190. Valerian, 87, 363, 411. Shower baths. Dry cupping over stomach and margins of lower ibs.

Sea-sickness:—Recumbent posture, and 20 grains of chloral immediately on going on board. Champagne. Brandy. Whisky Chloroform by inhalation, or a few drops on sugar. Inhalation of nitrite of amyl. Chloral. Bromide of potassium. Cocaine or antipyrin. Subcutaneous injection of morphia. Tight belt round the body. Chapman's ice bags to spine.

See *Gastritis; Gastric Ulcer; Gastric Cancer; Cholera; Hæmatemesis: Obstruction of Bowels*, &c.

VULVAL CANCER.—From *Vulva*, a covering,—or perhaps as i *Valvæ*, folding doors. Any part of external genitals, or of vagina walls, may become the seat of malignant disease. Occurs primarily, or secondarily. Epithelial cancer more common than other forms. Relief may be given by excision, where disease is confined to external labia.—See *Cancer*.

VULVAL CORRODING ULCER.—Synon. *Lupus of Vulva* (M. Duncan).—An inveterate and progressive ulceration of external genitals. Often of same nature as rodent ulcer. Ulceration due to tertiary syphilis only distinguished by syphilitic ulceration yielding to suitable remedies. Epithelioma of vulva more rapid than lupus, and never heals in part, like lupus. Rodent ulcer of vulva (see *Rodent Ulcer*), also never heals in one direction as it extends in another.

SYMPTOMS. An intractable ulceration, which commences on some part of external genitals, and gradually creeps over vulvo-anal region: surrounding structures have a tendency to become hypertrophied. As ulcer heals in one direction, it extends in another: process of repair accompanied by formation of a firm burn-like cicatrix, which has a tendency to cause contraction of vaginal or anal orifice. Suffering very slight for several months; until vaginal orifice becomes fissured by it, or mouth of urethra gets involved, there is no pain during sexual intercourse or micturition. For a long time, general health not affected; menstruation occurs regularly; neither loss of strength nor flesh. But unless a cure be effected, profuse discharge ultimately proves very weakening; appetite fails; dyspepsia; attacks of colliquative diarrhœa; sometimes, hæmorrhage.

Death seldom occurs until after lapse of eight or ten years. May be due to peritonitis; erysipelas; stricture of rectum; hæmorrhage; or fatal exhaustion.

TREATMENT. Thorough excision with Paquelin's cautery. Use of tents or bougies, as parts heal, to prevent undue contraction of vaginal and anal orifices. Efficacy of potential caustics very doubtful. Nourishing food. Cod liver oil. Daily hip baths. Anodyne lotions.

If there be any suspicion of syphilitic taint.—Iodide of potassium, 31. Green iodide of mercury, 53. Red iodide of mercury, 54. Liq. arsenii et hydrarg. iodidi, 51. Mercurial vapour bath, 131.

VULVAL PRURITUS.—From *Vulva*, a covering: *Prurio*, to itch.—Irritation of the vulva may be simply a local neurosis, or a symptom of some disease,—excoriation of labia uteri, onset of carcinoma, &c. Not uncommon in advanced life; sometimes troublesome during pregnancy. May be symptomatic of diabetes, or due to presence of pediculi or thread-worms, follicular vaginitis, eczema, &c.

SYMPTOMS. Itching, tingling, formication, or smarting about vulva: increased by stimulants and warmth. The scratching resorted to produces irritating excoriations and scabs about vaginal labia, perineum, vestibule, and mons Veneris. The constant annoyance causes general irritability, restlessness at night, loss of appetite, &c.

TREATMENT. *Generally*:—Treat constitutional disease,—opiates, chloral or bromides at bedtime. If a local neurosis,—quinine, 379; or arsenic, 52. Sulphate of soda and sulphur, 148. Sulphur and magnesia, 153. Compound powder of rhubarb. Rhubarb and blue pill, 171. Steel and sulphate of soda, 180, 181. Pepsine, 420. Nitro-hydrochloric acid, 378. Phosphoric acid and nux vomica, 376. Quinine and belladonna, 45. Tar capsules, 36. Corrosive sublimate, 27. Colchicum, 46. Copaiba. Camphor. Tincture of Indian hemp.—Plain animal food, milk eggs; avoidance of alcohol, tea, coffee.

Locally:—Morphia gr. 2, borax gr. 20, glycerine ℥j, 268, to be applied frequently. Tobacco lotion, 265. Lotion of corrosive sublimate and morphia, 271. Lotion of acetate of lead and prussic acid, 263. Lotion of morphia and solution of potash, 266. Painting vulva with mixture of equal parts of belladonna and aconite and chloroform liniments. Cod liver oil. Olive oil. Nitrate of silver. Lime liniment. Glycerine and rose water (one part to eight). Calomel ointment. Equal parts of red oxide of mercury ointment and cod liver oil. Carbonate of lead ointment. Hip baths. Vaginal injections of plain water; or of solution of lead and poppies, 425.

If there be excoriation of labia uteri it must be healed. In carcinoma, relief may be given to irritation by pessaries containing oxide of zinc and belladonna, 423.

VULVAL TUMOURS.—From *Vulva*, a covering,—or perhaps as if *Vulvæ*, folding doors. Several varieties of morbid growths are met with about the vaginal labia:—

1. Cystic Tumours.—Have their origin in abscess of the duct of Bartolin's gland, or of the gland itself, from occlusion of the duct in consequence of inflammation, hence a retention cyst. May be due to gonorrhœal or other inflammation. The tumour feels firm, but elastic.

SYMPTOMS. When about size of walnut, discomfort on walking. Pain after intercourse. Irritability of bladder. Tenderness about time of catamenial periods. Inflammation and suppuration of cyst walls may occur, converting tumour into an encysted abscess

TREATMENT. Incision, followed by excision of portion o cyst-wall. Evacuation of contents, afterwards rubbing cyst walls with nitrate of silver, or iodine liniment. Cyst to be dissected out.

2. Fibrous Tumours, &c. Occasionally developed in one o the labia majora; more rarely about perineum. They vary i size from that of a hazel nut to that of an orange, or larger.

Fatty tumours sometimes met with in same situations. May become pediculated.

The only remedy for either form of growth is excision.

3. Warty (Papillomatous) Growths.—Usually scattered about labia, nymphæ, vestibule, perineum, and around anus: sometime appear in large clusters. They give rise to irritation, and offensive moisture.

Removal with scissors necessary. Application of Paquelin's cautery.

4. Hypertrophy of Labia.—May occur to an enormous extent; sometimes constitutes a form of elephantiasis. Enlargement often due to syphilitic taint.

TREATMENT. If syphilitic, red iodide of mercury, 54. Mercurial vapour bath, 131. Iodide of potassium, 31. Iodide of iron, 32. Excision seldom successful without constitutional treatment.

5. Abscess of Labia.—May occur from a blow, forcible sexual intercourse, irritation of gonorrhœal or acrid leucorrhœal discharges, &c. Produces throbbing pain, heat and swelling, constitutional disturbance.

A free incision will be needed. Rest. Ammonia and bark, 371. Cod liver oil. Animal food.

6. Hæmatoma, or Thrombus of Labium.—Extravasation of blood into connective tissue of one of the labia majora, nymphæ, or vaginal walls may occur from injury: from rupture of a vessel during parturition.

SYMPTOMS. Considerable elastic swelling. Pain. Tumour sometimes bursts: if small, clot may be absorbed.

TREATMENT. Puncture; followed by application of pads and a T-bandage to prevent further hæmorrhage. Latter may also be prevented by lint saturated with solution of perchloride of iron.

VULVITIS.—From *Vulva*, a covering; terminal *-itis*. Synon. *Inflammatio Vulvæ*.—Several forms of troublesome inflammation may attack the vulva:—

1. Simple Vulvitis.—Not very uncommon from want of cleanliness, gonorrhœa, excessive intercourse, venereal taint, or irritation of adjoining structures—rectum or uterus. Usually associated with vaginitis.

SYMPTOMS. Pain and tenderness. Swelling. Yellowish mucous discharge. Heat or scalding during micturiton. Aching about loins, groins, and thighs. Constitutional disturbance.

TREATMENT. Seidlitz powders. Effervescing citrate of magnesia. Cold hip baths. Alum or lead lotions applied on lint between the labia. Vulva should be painted every other day with nitrate of silver solution gr. 10 in ℥j. Avoidance of stimulants.

2. **Gangrenous Vulvitis.** Has on a few occasions prevailed as an epidemic amongst lying-in women. A rare septic affection.

SYMPTOMS. Commence three or four days after delivery with vomiting and diarrhœa, or fever and abdominal pains, or with slight hæmorrhage. Prostration, anxiety. Œdematous redness of vulva. Disease progressing, pultaceous plates form on interior of vulva, somewhat like diphtheritic membranes. Separation of plates does not occur until end of first or second week; small suppurating wounds left. Disease may extend to uterus, causing gangrene. Peritonitis.

TREATMENT. Mineral acids and bark, 376. Quinine, 379. Quinine and steel, 380. Opium. Cod liver oil. Essence of beef. Milk, cream, raw eggs. Brandy or port wine. *Locally*:—Fomentations. Disinfectant poultices. Application of strong hydrochloric acid, nitric acid or actual cautery, under anæsthetic, to gangrenous spot.

3. **Follicular Vulvitis.**—An accumulation of sebaceous matter, or an inflammation of the sebaceous follicles scattered over mucous membrane of vulva. Both sides of vaginal entrance usually affected; with tissues within nymphæ and at base of clitoris.—Very intractable. Most common during pregnancy and about change of life.

SYMPTOMS. Parts found more or less inflamed: studded with numerous raised vascular points, sometimes having specks of ulceration on summits. Soon, the points coalesce, forming a strip of highly injected mucous membrane: subsequently, vascularity disappears. Disturbance of general health. Constriction of sphincter vaginæ muscle. Vaginismus. Leucorrhœa: irritation and smarting of genitals. Sexual intercourse very painful. Pains in back and thighs; urethritis in patient and husband.

TREATMENT. *Locally*:—All offensive cheesy secretion to be removed by washing. Avoidance of caustics and astringents. Frequent ablutions. Apply acidi hydrocyanici dil. ʒij, plumbi diacetatis gr. 20, vaseline ℥ij, 268. Glycerine and lime water, 286. Lime liniment. Iodide of lead and belladonna ointment, 293. Aconitine and calomel ointment, 296. Hydrocyanic acid and atropia ointment, 306. Warm hip baths.

Generally:—Plain nourishing food. Milk. Brandy and soda water. Arsenic and bark, 52. Mineral acids and bark, 376. Nitro-hydrochloric acid, 378. Quinine with aconite, 379. Corrosive sublimate and sarsaparilla, 27. Cod liver oil. Change of air. Avoidance of seasoned dishes: tea, coffee, wine, and beer.

4. **Pudendal Erythema.**—*Eczema Intertrigo.*—Generally from want of cleanliness, pediculi causing scratching, or from excessive exhalation of moisture in stout middle-aged women, the surfaces of the labia and perineum and upper part of inside of thighs become the seat of an erythematous eruption. Parts of a bright red colour: sensation of heat and great discomfort. Severe forms may end in erysipelas. May be due to diabetes.

TREATMENT. Non-stimulating diet. Removal of any derangement of general health. Great attention to cleanliness. Bathing with dilute solution of subacetate of lead. Dusting with oxide of zinc, or powdered spermaceti. Fuller's earth, a common domestic remedy. Vaseline. Separation of parts with absorbent wool. Cure of internal disease causing excessive vaginal discharge. For pediculi, sublimate lotion 1 in 1000, or ung. staphisagriæ.

5. **Infantile Leucorrhœa.**—An irritation or subacute inflammation of mucous glands of vulva, producing a muco-purulent or purulent discharge.—May occur from irritation of worms or teething: sometimes as a complication during progress of one of the eruptive fevers.

SYMPTOMS. Derangement of general health: children often strumous, badly fed, &c. There may be only a mucous discharge, with irritation of surrounding parts: if disease extend up vagina, profuse purulent discharge, heat and pain during micturition, excoriation of surrounding parts, perhaps aphthous ulceration. Caution necessary, lest disease be wrongly attributed to gonorrhœal affection, or to violence in attempting a rape.—Fatal sloughing or gangrenous ulceration of vulva, very rare (*noma*), also in severe zymotic diseases.—In diphtheritic vulvitis, tough false membranes formed on inner surface of labia. Effects of diphtheritic poison very seldom confined to vulva.—Scarlatinal vaginitis, attended with exfoliation of patches of epithelium.

TREATMENT. Plain nourishing food; milk. Bark. Quinine and steel. Cod liver oil. Glycerine. Chemical food. 405. Chlorate of potash. Warm hip baths. Frequent ablutions. Alum or subacetate of lead lotions. Sea bathing. Worms should be got rid of.

WASTING PALSY.—A degeneration of the voluntary muscles, producing complete loss of power.—See *Paralysis.*

WEIGHT OF BODY.—The following table shows the normal weight in proportion to height. Loss of weight an early symptom in phthisis. A slow and gradual fall, more serious than a rapid and irregular diminution; *a steady loss always precedes tuberculosis.*

During childhood relative weight for height and rate of growth offer most important information. The following standard tables are from the statistics of Dr. Percy Boulton:—

Normal Weight for Height in Children.—The following table shows the normal weight for height in children from birth to twelve years of age :—

Age.	Height.	Weight.	Age.	Height.	Weight.
	ft. in.	st. lb.		ft. in.	st. lb.
Birth	1 8	0 8*	6 Years	3 10	3 7
6 Months........	2 0½	1 2	7 ,, ...	4 0	3 10½
1 Year	2 5	1 10	8 ,, ...	4 2	4 0½
18 Months.........	2 8½	2 0	9 ,, ...	4 4	4 6
2 Years	3 0	2 4	10 ,, ...	4 6	4 12
3 ,, ...	3 4	2 8½	11 ,, ...	4 8	5 4
4 ,, ...	3 6	2 13	12 ,, ...	4 10	5 10
5. ,, ...	3 8	3 3			

[N.B.—For a growing person, deduct 2 st. from any of the following weights.]

Height.	Weight.	Height.	Weight.
ft. in.	st. lb.	ft. in.	st. lb.
5 0	8 8	5 9	11 11
5 1	8 13	5 10	12 2
5 2	9 4	5 11	12 7
5 3	9 9	6 0	12 12
5 4	10 0	6 1	13 4
5 5	10 5	6 2	13 10
5 6	10 10	6 3	14 2
5 7	11 1	6 4	14 8
5 8	11 6	6 5	15

A boy of 5 ft. 5 in. would weigh 8 st. 5 lbs. instead of 10 st. 5 lbs. as given, and if this boy never grew any taller he should attain the latter weight when a fully developed man.

WRY-NECK.—Synon. *Fixed Torticollis*, congenital; *Spasmodic Torticollis.*—A functional neurosis, in which the occiput is drawn lown to one side (often the right), and the face directed to the pposite. Due to contraction of the sterno-mastoid muscle of ne side, other muscles often co-operating; or paralysis of one nuscle allows the other to overpower its fellow. Inflammation, r rheumatic spasm of one muscle may cause it to contract nduly. Sometimes the affection is owing to lateral curvature f spine; to caries of cervical vertebræ; to tumours or enlargenent of cervical glands on one side; or to contraction of cicatrix eft by a burn or ulcer.

TREATMENT. *Inflammatory or rheumatic variety* :—Rest. Fonentations or hot bathing. Turkish bath. Ammonia and bark. conite or belladonna. Iodide of potassium with tincture of actæa racemosa.—*Spasmodic form*:—Apparatus to produce an maintain extension. Surgical procedures useless. Succus coni Morphia. Bromides. Indian hemp. Friction, blisters, irritatin liniments, or galvanism, a weak constant current for te minutes daily. Improvement of general health.

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* Of children born at full term of forty weeks.

XANTHELASMA.—Synon. *Xanthoma; Vitiligoidea.—X. Planum* A yellow discoloration of the skin usually occurring in small well-defined patches on the upper eyelid. Sometimes associate with functional, or organic, affections of liver. Yellow patche may be disseminated over various parts of body. *X. Tuberosum* Size of pea, firm and round, on elbow, knuckles, or lobules o ear. Removal by caustics the only remedy.

YELLOW FEVER.—Synon. *Mal de Siam; Typhus Icterodes; Bilious Remitting Yellow Fever; Black Vomit; Yellow Jack.*—A acute and very dangerous fever; accompanied with jaundice severe headache, and vomiting of black matter. Almost limite to warm climates. Temperature over 70° F. Not of unfrequen occurrence in sea-port towns of the West Indies, Africa, souther parts of Spain. May be conveyed to temperate climates, bu does not spread in them. May occur sporadically or epidemically. Probably not directly contagious, but locality poisoned. White races more obnoxious to the disease than negroes. On attack generally gives permanent immunity against another unless patient visits a temperate climate.

SYMPTOMS. Often commence suddenly with languor, loss o appetite, giddiness, headache, pain in the brow on one side, mental depression. Sometimes begin with coldness of the surface, or distinct rigors (*Algid*); followed by fever which continues for a few hours. In a third class of cases, there is prostration from the first, without febrile reaction; stupor, coma, and convulsions soon following. When there is decided fever, it generally becomes aggravated towards night: pulse gets quick, skin hot and dry, eyes congested and painful, face flushed. Distressing headache; perhaps confined to one temple. Pains in back and limbs; in large joints. Irritability of stomach: tenderness on pressure; sense of tightness about præcordia: nausea, followed after a few hours by constant vomiting and retching. Thirst, with desire for cold drinks. Urine diminished in quantity; of a dark-red colour. Constipation; stools free from bile. Distressing restlessness; mental anxiety; sleeplessness; perhaps, active delirium.—At the end of second or third day, severity of symptoms greatly diminishes: patient feels much relieved: face gets slightly jaundiced: skin becomes moist, and there are copious bilious stools. In favourable cases, convalescence firmly established. More frequently, improvement of short duration. After some twenty-four hours, epigastric tenderness is aggravated: jaundice increases and spreads over body: tendency to stupor: pulse becomes feeble, irregular, and slow—perhaps as low as thirty beats in the minute: tongue gets foul and dry: respiration embarrassed: hiccough, thirst, nausea, vomiting, &c., are constant. Unless symptoms remit, grumous blood is vomited—black vomit: urine is suppressed or simply retained: skin becomes of a dark-brown hue: dark-coloured blood effused in patches under skin, or exudes from nose, gums, anus, vagina, &c. (*Hæmorrhagic*): most offensive tarry-looking stools. There are now all the features of a most malignant fever; almost imperceptible pulse; slow or stertorous breathing; involuntary evacuations; difficulty of deglutition and articulation; suppressed or bloody urine; with formation of buboes or patches of gangrene. Death takes place, preceded by coma or convulsions; or patient retains consciousness to the close.

Usual duration from three to nine days. Mortality about one in three. Death from overpowering effect of poison on the system, exhaustion, uræmia or apoplexy.

TREATMENT. *Prophylactic*:— Removal of all nuisances; thorough ventilation and fumigation of narrow courts, cellars, docks, holds of ships, &c. Cleanliness on board ship: pumping out of foul bilge water.—Individuals exposed to risk, to live on plain nourishing food, avoiding the abuse of alcoholic drinks and sexual excesses; to have a due amount of sleep; to promote healthy action of skin, kidneys, intestinal canal: to have warm clothing; not to venture out early in the morning with the stomach empty. The special efficacy of strong coffee, quinine, and inunction with lard or oil, doubtful.

Curative:—From the commencement until convalescence is firmly established the recumbent posture to be strictly maintained: bed to be placed in centre of well-ventilated room; great attention to be paid to cleanliness. The indications presented by the urgent symptoms to be observed. The disease cannot be cured, but the patient may be guided through it. Salines and diaphoretics. Creasote. Chlorodyne. Hydrocyanic acid. Lime water and milk to check sickness and relieve pain. Copious turpentine enemata to clear the bowels. During convalescence, quinine. Simple diet:—Arrowroot, barley water, ice and iced water, tea, lemonade, broth, champagne, spruce, seltzer water, brandy and water.

Blisters or sinapisms to nucha. Cold to the head. Compression of the temporal arteries, for relief of cephalalgia. Prolonged use of warm bath, or of wet sheet. Nitro-hydrochloric acid bath, 120; followed by use of sheet wrung out of the bath water. Sinapisms or turpentine stupes to epigastrium.

Avoidance of ammonia: the blood often strongly ammoniacal. Alcoholic stimulants to be used cautiously, when kidneys are much congested.

ZONA.—From *Zona*, a belt. Synon. *Herpes Zoster; Shingles.*—That form of herpes in which the vesicles, with their inflamed patches are arranged in the form of a band encircling half the circumference of the body.—See *Herpes.*

APPENDIX OF FORMULÆ.

In prescribing a medicine, attention must be paid to the following points :—Age, Sex, Temperament, Habit, Condition of System, Climate, and Season of the year. The operation of most drugs is materially influenced by the form in which the medicine is given, the purity of the preparation, the time of day at which the dose is taken, and the condition of the stomach as regards the presence or absence of food. The succeeding formulæ are for Adults, unless the contrary is stated. The doses may, except in the case of mercurials and narcotics, be reduced by attention to this table :—

For an adult, suppose the dose to be . . .	1	or gr. 60.
Under 1 year will require only	1-12th	or gr. 5.
,, 2 ,, ,, ...	1-8th	or gr. 7½.
,, 3 ,, ,, ...	1-6th	or gr. 10
,, 4 ,, ,, ...	1-4th	or gr. 15.
,, 7 ,, ,, ...	1-3rd	or gr. 20.
,, 14 ,, ,, ...	1-half	or gr. 30.
,, 20 ,, ,, ...	2-3rds	or gr. 40.

Above 21, the full dose.
,, 65, the dose must be diminished in the inverse gradation of the above.

Children bear as large doses of mercury and some other drugs—*e.g.*, belladonna and lobelia—as adults ; but they are much more susceptible to the influence of opiates. Consequently, opium must be given in very minute doses to them. Females, also, from their more delicate organisation and greater sensitiveness, require smaller quantities of powerful medicines than males. This is particularly the case during the periods of menstruation, pregnancy and lactation.

The skill of the physician is shown by the administration of the proper remedy, in the proper quantity, at the proper time. A druggists' apprentice can tell what agents will purge, vomit, or sweat ; but a man must be practically conversant with disease to be able rightly to apply his therapeutical resources, and a knowledge of the physiological action of drugs will enable him to select the most appropriate remedy to meet the exigencies of any particular case. Instead of introducing medicines into the system by the stomach it is often more advisable to do so by the rectum, or by the skin, or by the lungs, or by injections into the connective tissue. Absorption takes place from the rectum as speedily and surely as from the stomach ; and hence purgatives, emetics, narcotics, tonics, and nutrients may be admirably administered as enemata. The skin offers a mechanical impediment to absorption ; but still poultices and fomentations, plasters, liniments and ointments, and medicated vapour or water baths are all valuable remedies. If the cuticle be removed by a blister, and the medicine applied to the denuded dermis in its pure state or incorporated with lard or mucilage, its action will be rapid. The system is quickly and thoroughly affected by the inhalation of medicated vapours, or of substances reduced to an impalpable powder. Subcutaneous injections must be employed with great caution, since by this plan none of the medicine is lost, neither is it altered or diluted by the contents of the stomach, as happens when drugs are taken by the mouth.—In only exceptional cases can there be any advantage in procuring absorption through the conjunctiva, the nasal or pituitary membrane, or the mucous coat of the vagina; but in these exceptional cases the benefit is often very great.—Injection into the veins is too dangerous to allow of its being practised except as a last resource in grave diseases—such as epidemic cholera, snake-bite, &c.

The practitioner will do well to bear in mind the following rules:—(1) When a disease is progressing favourably towards recovery, it is unwise to interfere with the spontaneous effort at cure by the administration of drugs. The end and aim of treatment is not only to restore health, but to do so safely and speedily and pleasantly.—(2) Where drugs are needed, and there is a choice of remedies, employ that one which will be the least distressing at the time, and subsequently the least injurious to the constitution.—(3) Put the medicine into that form in which it can be most easily taken. When possible, especially with children, cover the disagreeable taste of the draught by syrups, &c.—(4) If there be an idiosyncrasy with respect to any special medicine—such as mercury, arsenic, iodide of potassium, opium, strychnine, or nux vomica, quinine, assafœtida, turpentine, &c.—avoid administering it. That a peculiarity of constitution, causing an extreme susceptibility to the influence of certain drugs and foods and odours sometimes exists, cannot be disputed. It is as certain that it can seldom be safely combated.—(5) Attend to the condition under which the patient will be at the period of the medicine's action—*e.g.*, it will be worse than useless to give a sudorific to an individual obliged to be in the open air soon after taking it.—(6) Be careful that the various agents in the prescription are not incompatible with each other, unless it be desired to form some new or particular compound. Chemical incompatibility, however, is by no means synonymous with therapeutic inertness; for experience tells us that certain unchemical compounds—perchloride of mercury and tincture of bark, gallic acid and tincture of opium, calomel and compound ipecacuanha powder, &c.—are all valuable preparations in curing diseases.—(7) Remember that if a disease be incurable, it may still admit of great alleviation. Hence it is cruel to give up any case; although, at the same time, the patient is not to be deceived by false promises.—(8) Never order, or sanction the use of, a quack medicine—*i.e.*, one the composition of which is kept a secret.—(9) Bearing in mind the weakness of human nature, as well as the prejudices and superstitions which are current, it is not only necessary to give good advice, but pains must be taken so to impress the patient and attendants that the necessary treatment may be thoroughly carried out. *Hope* and *confidence* are no mean remedial agents; and in many chronic diseases at least, the individual who has *faith* will recover more speedily, *cæteris paribus*, than he who is shy of belief.—(10) Simply to prescribe drugs, without regulating the diet and general management of the patient, is to omit a most important duty. In acute diseases plain directions must be given as to the ventilation and warmth of the sick-room, the amount of light, the position of the bed (not to be placed in a corner), the degree of quiet to be maintained, the advoidance of excitement and whispering, the exclusion of visitors, the cleanliness of the sufferer, and the nature and quantity and times for administration of food. No cooking whatever should be permitted in the sick-room. In cases of long illness, when the patient can be moved without risk, it is often desirable to have two beds in the room,—one to be occupied during the day, the other at night. Every precaution must be taken to prevent the spread of infectious disorders. Soiled linen, dirty water, &c., must be immediately removed. And, in all instances, the evacuations ought to be passed in a bed-pan or night-stool containing some disinfectant material (carbolic acid, permanganate of potash, sulphate of iron, &c).—11) While it is allowed that the following formulæ may often be employed unaltered with great advantage, yet it is not supposed that hey will usually be prescribed with servile exactness; for it should never e forgotten that all medicines of any power have to be adapted to the equirements of the special case under treatment. It has been quaintly out truly observed, that a bundle of ready-made receipts in the hands f the routine practitioner, is but a well-equipped quiver on the back f an unskilful archer.—And, (12) In watching the restoration of a sick nan to health, it is a mistake to attribute the improvement too confidently to the action of the medicine prescribed; for it may not have een taken, or it may not have been absorbed, or its properties may have een destroyed by adulteration, or it may have even proved injurious –recovery occurring in spite of it.

The succeeding formulæ have been written in accordance with the ules, preparations, &c., of the *British Pharmacopœia.* For the sake of onvenience they are arranged in twenty-one classes, running thus:—

1. Aliments.
2. Alteratives and resolvents.
3. Antacids.
4. Antiseptics.
5. Antispasmodics.
6. Astringents.
7. Baths.
8. Cathartics and Anthelmintics.
9. Caustics and Counter-Irritants.
10. Diaphoretics and Diuretics.
11. Emetics and Expectorants.
12. Gargles and Inhalations.
13. Lotions, Liniments, Collyria, and Ointments.
14. Narcotics and Sedatives.
15. Refrigerants and Salines.
16. Stimulants.
17. Tonics.
18. Uterine Therapeutics.
19. Electro-therapeutics.
20. Climates for Invalids.
21. Mineral waters.

The symbolic formulæ employed here and there in this volume, have een represented according to the new method of notation.

I. ALIMENTS.

1. *Extracts and Essence of Beef.*

Extract of Beef.—Take one pound of rumpsteak, mince it like sau-ge meat, and mix it with one pint of cold water. Place it in a pan the side of the fire to heat very slowly. It may stand two or three urs before it is allowed to simmer, and then let it boil gently for teen minutes. Skim and serve. The addition of a small teaspoonful cream to a teacupful of this beef tea renders it richer and more urishing. Sometimes it is preferred when thickened with a little ur or arrowroot.

Essence of Beef.—Take one pound of gravy beef free from skin and , chop it up as fine as mincemeat, pound it in a mortar with three tablespoonfuls of soft water, and let it soak for two hours Then put into a covered earthen jar, with a little salt ; cementing the edges of th cover with pudding paste, and tying a piece of cloth over the to Place the jar in a pot half full of boiling water, and keep the pot on th fire for four hours Strain off (through a coarse sieve, so as to allow the smaller particles of meat to pass) the liquid essence, which wi amount to about five or six ounces in quantity. Give two or mor teaspoonfuls frequently. *In great debility, diphtheria, typhus, exhau tion from hæmorrhage, &c.*

The Extract of Meat Lozenges, as sold by Allen & Hanbury, ca sometimes be taken when the stomach is too irritable to retain bee tea. Each lozenge contains half its weight (or about eighteen grain of pure Extract of Meat made after LIEBIG's process. This quantit corresponds to the soluble constituents of an ounce and a quarter o solid flesh, and will afford the sustaining and restorative effect of sou or beef tea made from that quantity of meat.—A good broth may b made by dissolving four of these lozenges in a wineglassful of boilin water or, better still, of home-made beef tea, adding a little salt an pepper to taste.

Excellent meat essences of various kinds and concentrated beef te are also prepared by Brand, Liebig, Johnstone, Valentine, or Gillon which are more trustworthy than domestic preparations, and are ofte invaluable in emergencies. They are all well known, and require n more directions for use than will be found on their respective labels.

2. *Preparations of Raw Meat.*

Raw Meat Juice.—Good beefsteak is cut into small portions an pounded in a mortar. Water is added to an amount not exceeding th volume of the pounded meat, and the juice is strained off by compression through muslin or a fine sieve.

Raw Meat Pulp is prepared by rubbing the pounded meat through a sieve without the addition of water.

Raw meat can sometimes be assimilated when no other food is borne. The juice will be taken by some patients without disguise, or it may be given with beef tea, or in Claret or Malmsey wine. The pulp also may be made into sandwiches.

3. *Restorative Soup for Invalids.*

Take one pound of newly killed beef or fowl, chop it fine, add eight fluid ounces of soft or distilled water, four or six drops of pure hydrochloric acid, 30 to 60 grs. of common salt, and stir well together. After three hours the whole is to be thrown on a conical hair-sieve, and the fluid allowed to pass through with slight pressure. On the flesh residue in the sieve pour slowly two ounces of distilled water, and let it run through while squeezing the meat. There will be thus obtained about ten fluid ounces of cold juice (cold extract of flesh), of a red colour, and possessing a pleasant taste of soup ; of which a wineglassful may be taken at pleasure. It must not be warmed (at least, not to a greater extent than can be effected by partially filling a bottle with it, and standing this in hot water) ; since it is rendered muddy by heat or by alcohol, and deposits a thick coagulum of albumen with the colouring matter of blood.—If, from any special circumstances (such as a free secretion of gastric juice) it is deemed undesirable to administer an acid, the soup may be well prepared by merely soaking the minced meat in plain distilled water.—Children, and even adults, will frequently take the raw meat simply minced or grated, when they are suffering from great debility. One teaspoonful of such meat may be given every three or four hours. If found disagreeable, all unpleasantness can be removed by thoroughly mixing in a mortar two parts of pounded white sugar with one part of meat.

This modification of LIEBIG'S *formula is very valuable in cases of continued fever, in dysentery, and indeed in all diseases attended with great prostration and weakness of the digestive organs. When the flavour is thought disagreeable, it may be concealed by the addition of spice, or of a wineglassful of claret to each teacupful of soup.*

4. *Digested Milk and Soluble Meat.*

Milk, five ounces; pepsine, five grains; dilute hydrochloric acid, thirty minims. Digest in a water bath at a temperature of 120° F. for two hours, after which neutralise the acid by twelve grains of carbonate of soda, and sweeten with pure sugar.

Useful for children who are unable to digest milk, and in cases of extreme irritability of stomach.—SIR WILLIAM JENNER.

4*a*. *Peptonised Food.*

Dr. W. Roberts, F.R.S., has introduced the plan of artificially digesting various articles of food before administration by means of fluid extracts of pancreas. The solution he recommends is the Liquor Pancreaticus (Benger), manufactured by Mottershead & Co., of Manchester. Fairchild's Peptonising Powders are equally good. This solution contains the pancreatic ferments, which convert albuminous substances into peptone, and starchy matters into glucose; but it has not the power of digesting fat. In using this solution to produce an artificial digestion, two points especially must be noted, first, that the solution must have a decidedly alkaline reaction, and secondly that the temperature must not be raised above 140° F. At a higher temperature, and also in an acid medium, the ferments are destroyed. It is also advisable not to allow the process to be carried too far, otherwise a bitter taste becomes perceptible in the liquid. When the transformaion has proceeded far enough, the temperature is raised to the boiling point, and all digestive action ceases.

Peptonised Milk.—Dilute a pint of milk with a quarter of a pint of water. Divide this into two equal portions, of which one must be heated to the boiling point. If the two portions are now again mixed, he whole will be at the required temperature. Add two or three teaspoonfuls of liquor pancreaticus, and twenty grains of bicarbonate of oda (about half a small teaspoonful). Place the mixture in a covered jug, and let it stand under a cozey in a warm place for an hour, or until a very slight bitterness is developed. Let it then be boiled for wo or three minutes, and allowed to cool. A little cream may afterwards be added with advantage.

Peptonised Milk Gruel.—Prepare a thick well-boiled gruel from wheaten flour, oatmeal, arrowroot, sago, pearl-barley, pea-flour, or lentil flour. Add the boiling gruel to an equal quantity of cold milk. To each pint of this mixture add two or three teaspoonfuls of liquor pancreaticus, and half a small teaspoonful of bicarbonate of soda, and roceed as above directed.

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Peptonised Beef Tea.—Mix half a pound of finely minced lean beef with a pint of water, and add half a small teaspoonful of bicarbonate of soda. Let it simmer for an hour and a half. When it has cooled so far that it can be tolerated in the mouth (or, if a thermometer be at hand, to a temperature of 140° F.), add a tablespoonful of liquor pancreaticus. Set it aside under a cozey for two hours, and stir it occasionally. At the end of this time, decant the liquid portion, boil it for five minutes, allow it to cool, and season with salt.

Peptonised Soup may be prepared by using peptonised gruel, which is quite thin and watery, for the purpose of extracting the gelatinous and soluble matters from shins of beef and other materials employed for the preparation of soup.

Peptonised Jellies may be obtained by adding the due quantity of gelatine or isinglass to hot peptonised gruel, and flavouring the mixture according to taste.

Peptonised Blancmanges are made by treating peptonised milk in the same way, and adding cream.

In preparing all these dishes, it is absolutely necessary to complete the operation of peptonising the gruel or the milk, even to the final boiling, before adding the stiffening ingredient. For if pancreatic extract be allowed to act on the gelatine, the gelatine itself undergoes a process of digestion, and its power of setting on cooling is utterly abolished.

These peptonised foods are often of the greatest service in disease of the stomach, functional or organic, in typhoid fever, and in many other conditions. Peptonised milk is often very useful as a food for infants.

5. *Liebig's Food for Infants and Invalids.*

Half an ounce of wheaten flour (that called "seconds" is the most suitable), an equal quantity of malt flour, $7\frac{1}{4}$ grains of bicarbonate of potash, and an ounce of water are to be well mixed. Add five ounces of cow's milk, and put the whole on a gentle fire. When the mixture begins to thicken it is to be removed from the fire, stirred for five minutes, heated and stirred again till it becomes quite fluid, and finally made to boil. After separating the bran by passing the mixture through a sieve, it is ready for use.

To save the trouble of weighing, it may be remembered that a tablespoonful (heaped up) of wheaten flour weighs nearly half an ounce, and a heaped dessertspoonful of malt flour is equal to the same. This soup is as sweet as milk; and after boiling may be kept for twenty-four hours without undergoing any change.—This is an excellent food for infants who cannot be suckled. It is slightly aperient; so that children under one year of age can seldom take more than two meals of it in the day. Where there is a tendency to diarrhœa, twenty grains of prepared chalk may be substituted for the potash. The proportion of blood-forming and heat-producing elements is the same as in woman's milk (1 : 3·8); while the quantity of alkali is equivalent to that in human milk.

The solid parts of this food are sold, ready mixed in packets, by Mr. Hooper, of Pall Mall East, and Grosvenor Street; Mr. Cooper, of 26 Oxford Street; Mr. Mellin, of Piccadilly Circus; Messrs. Savory & Moore, of Bond Street; and other chemists. Barley malt can also be procured from every brewery. It may be ground in a common coffee mill: the coarse powder being passed through a sieve to remove the husks.

Other foods which may be used for infants of more than three months old, are Nestlé's Milk Food, Lobb's Milk Food, Oetli's Swiss Milk, and Benger's Food. For infants older than eight months, Robb's Biscuits, Ridge's Food, and especially Chapman's Entire Wheaten Flour, may be used to thicken the milk.

To make Artificial Mother's Milk:—Take half a pint of skimmed milk, heat it to about 96° F., and put into the warm milk a piece of rennet about an inch square. Set the milk to stand in the fender or over a lamp until it is quite warm. When it is set, take the rennet out, and break up the curd quite small with a knife, and let it stand ten or fifteen minutes, when the curd will sink. Then pour the whey into a saucepan, and let it boil quickly. Measure one-third of a pint of this whey, and dissolve in it, when hot, a powder containing 110 grains of sugar of milk. *When this third of a pint of whey is quite cold*, add to it two-thirds of a pint of new milk and two teaspoonfuls of cream, stirring the whole together. The food should be made fresh every twelve hours, and warmed as required. The piece of rennet when taken out can be kept in an egg-cup, and used for ten days or a fortnight. N.B.—It is often advisable during the first month to use rather more than a third of a pint of whey, as the milk is apt to be rather too rich for a newly-born child. *Probably the most useful of all artificial foods for children brought up by hand.* It is supplied ready made by the Aylesbury Dairy Company.

6. *Eggs, Cream, and Extract of Beef.*

Wash two ounces of the best pearl sago until the water poured from it is clear. Then stew the sago in half a pint of water until it is quite tender and very thick: mix with it half a pint of good cream and the yolks of four fresh eggs, and mingle the whole carefully with one quart of good beef tea, which should be boiling. Serve. *This nourishing broth is very useful in many cases of lingering convalescence after acute disease.*

7. *Mutton or Veal Broth.—Beef Tea.*

Take of mutton, or veal, or beef, one pound and a half, cold water one quart, a little salt, and rice two ounces. Simmer for four hours, boil for a few minutes, strain, and serve. Another excellent plan for making beef tea is as follows:—Take one pound of beef minced very fine, and put it into a common earthenware teapot with a pint and a half of cold water. Stand the pot on the hob, so that it may simmer for at least three hours. About three-quarters of a pint of good beef tea will be thus obtained.

Take one pound of mutton, one pound of veal, half a chicken (with the bones well broken), one calf's foot, and two quarts of water. Stew slowly down to one quart. To be flavoured with pepper and salt, and taken cold as a jelly, or as a warm broth. The chicken can be omitted if desired.

Beef tea as ordinarily made, and preserved meat juice of all kinds, are palatable but not very nutritive drinks. A pint of fine beef tea contains scarcely a quarter of an ounce of anything but water. Nevertheless, if these fluids are of small value as mere nutrients, perhaps the osmazome and salts they contain may possess the property, like tea and coffee, of diminishing the waste of the tissues. It has been proved that dogs die slowly if fed on bread and gelatine alone; but when greatly reduced by this diet they soon regain flesh and strength if two ounces of meat tea be daily added to it.

Gruel mixed with beef tea is nourishing. It is made thus:—Take two tablespoonfuls of oatmeal with three of cold water, and mix them thoroughly. Then add a pint of strong boiling beef tea (or of milk); boil for five minutes, stirring well to prevent the oatmeal from burning; and strain through a hair sieve.—*An excellent simple restorative during convalescence from acute disease before solid food can be taken.*

8. *Spruce Beer.*

The essence of spruce is prepared by boiling down to concentration the young branches of the Black Spruce Fir (Abies nigra). Take of this essence half a pint; bruised pimento and ginger, of each four ounces; water, three gallons. Boil for five or ten minutes; then strain, and add eleven gallons of warm water, a pint of yeast, and six pints of molasses. Mix, and allow the mixture to ferment for twenty-four hours. *It is an admirable antiscorbutic, and is an agreeable and wholesome drink in warm weather. This drink was found very efficacious by* CAPTAIN COOK. DR. ROBERT BARNES *suggests that it should be used in the Merchant Service instead of rum, which has no antiscorbutic virtue.*

9. *Tapioca and Cod Liver.*

Boil a quarter of a pound of tapioca till tender, in two quarts of water; drain it in a cullender, then put it back in the pan; season with a little salt and pepper, add half a pint of milk, and put over it one pound of fresh cod liver cut in eight pieces. Set the pan near the fire to simmer slowly for half an hour, or a little more, till the liver is quite cooked. Press on it with a spoon, so as to get as much oil into the tapioca as possible. After taking away the liver, mix the tapioca. If too thick, add a little milk, then boil for a few minutes; stir round, add a little salt and pepper, and serve.—ALEXIS SOYER. *Tapioca thus cooked is nourishing and easily digested.*

10. *The Bran Loaf.*

Take a sufficient quantity (say two or three quarts) of wheat bran, boil it in two successive waters for ten minutes, each time straining it through a sieve, then wash it well with cold water (on the sieve), until the water runs off perfectly clear; squeeze the bran in a cloth as dry as possible, then spread it thinly on a dish, and place it in a slow oven—if put in at night, let it remain until the morning, when, if perfectly dry and crisp, it will be fit for grinding. The bran thus prepared must be ground in a fine mill, and sifted through a wire sieve of sufficient fineness to require the use of a brush to pass it through; that which does not pass at first ought to be ground and sifted again, until the whole is soft and fine.

Take of this bran-powder three ounces troy, three fresh eggs, one ounce and a half of butter, and rather less than half a pint of milk; mix the eggs with part of the milk, and warm the butter with the other portion; then stir the whole well together, adding a little nutmeg and ginger, or any other agreeable spice. Immediately before putting into the oven, stir in first thirty-five grains of bicarbonate of soda, and then three drachms of dilute hydrochloric acid. The loaf thus prepared should be baked in a basin (previously well buttered) for about an hour or rather more.

Biscuits may be prepared as above, omitting the soda and hydrochloric acid and part of the milk, and making them of proper consistence for moulding into shape.

If properly baked, the loaves or biscuits will keep several days; but they should always be preserved in a dry place, and not be prepared in too large quantities at a time. Various biscuits are also made from almonds and gluten, for use in diabetes; and gluten flour may be made into bread, puddings, and pancakes, by the aid of milk and eggs. Sugar must not be added. All these can be obtained, ready made, from Blatchley, Oxford Street, and Van Abbott, Princes Street.

11. *White Wine Whey and Caudle.*

White Wine Whey.—To half a pint of boiling milk, add one or two wineglassfuls of sherry or Madeira. The curd is to be separated by straining through a fine sieve or piece of muslin. Sweeten the whey with refined sugar.

Caudle.—Beat up one egg with a wineglassful of sherry, and add it to half a pint of fine hot gruel. Flavour with sugar, nutmeg, and lemon peel. *In insomnia with debility.*

Beat up two tablespoonfuls of cream in a pint of thin gruel. Add to this one tablespoonful of curaçoa or noyeau, and a wineglassful of sherry. Flavour with sugar-candy, and let half a tumblerful be taken cold, at intervals.

12. *Ferruginous Chocolate.*

Spanish chocolate 16 oz.; carbonate of iron half an ounce. Divide into one-ounce cakes. One to be dissolved in half a pint of hot milk, and taken night and morning. *In anæmia, amenorrhœa, &c.*

13. *Iceland Moss and Quinine Jelly.*

Take of Iceland moss (Cetraria), and Irish moss (Chondrus crispus, Carragheen), each one ounce. Boil slowly for three-quarters of an hour in a pint and a half of milk, strain through muslin, and add three ounces of white sugar dissolved in one ounce of the ammoniated tincture of quinine. A dessertspoonful to be taken frequently in the course of the day. *In phthisis, &c.*

14. *Lime Water and Milk.*

℞. Liquoris Calcis Saccharati, min. 20—90, *vel* Liquoris Calcis, fl. oz. 1—4; Lactis, fl. oz. 4. Mix. *This compound will sometimes be retained when all other food is ejected. As a variety, milk and soda water in equal proportions may also be ordered.* See F. 73.

It may be well to remember that the addition of 15 grs. of bicarbonate of soda to the quart of fresh milk not only prevents it from turning sour for several hours, but renders it more digestible.

15. *Artificial Ass's and Goat's Milk.*

Take half an ounce of gelatine, and dissolve it in half a pint of hot barley water. Then add an ounce of refined sugar, and pour into the mixture a pint of good new cow's milk.

Chop an ounce of suet (that of the calf is the best) very fine, tie it lightly in a muslin bag, and boil it slowly in a quart of new milk. Sweeten with white sugar, or a glass of any liqueur. *An excellent* *aliment in some cases of tuberculosis, &c., where the unpleasant odour of goat's milk prevents its being taken.*

15*a*. *Koumiss.*

Koumiss is an effervescing preparation of milk obtained by fermentation. *It can often be retained when the stomach will tolerate no other food. It is of the greatest service in chronic vomiting, severe dyspepsia, and emaciation.*

There are four varieties of Koumiss—A. B. C. D. The former is the newest, undergoing active fermentation, contains the maximum of caseine, and is only suitable when the digestive powers are not much impaired. It is aperient.

B. is more sparkling and acidulous than A. It is not aperient, and is suitable for all debilitating diseases.

C. is more acid and astringent, and best suited for chronic discharges, diarrhœa, &c. It is alcoholic, and contains much carbonic acid. It is useful in diabetes and for fever patients.

D. koumiss is only used by diabetic patients, and is called "Diabetic" koumiss.

It has long been made by Chapman, but is now supplied by the Aylesbury and other Dairy Companies in London.

16. *Milk, Flour, and Steel.*

Beat up carefully one tablespoonful of flour, one raw egg, and about twenty grains of the saccharated carbonate of iron, with half a pint of new milk: flavour with nutmeg and white sugar. To be taken for lunch with a biscuit. *In the early stages of tuberculosis Dr. Tanner found this mixture very valuable.*

17. *Brandy and Egg Mixtures.*

Take the whites and yolks of three eggs and beat them up in five ounces of plain water. Add slowly three ounces of brandy, with a little sugar and nutmeg. This form is preferable to that in the *British Pharmacopœia* for 1867; which form contains an insufficient quantity of egg, while it is spoilt for sensitive stomachs by the cinnamon water it is mixed with. Two tablespoonfuls should be given every four or six hours. In some cases of great prostration the efficacy of the mixture is much increased by the addition of one drachm of the tincture of yellow cinchona to each dose.

When the stomach is very irritable the following will often be useful:—Take a tablespoonful of cream and beat it up thoroughly with the white of a new-laid egg. Add slowly to the frothy mixture thus obtained, one tablespoonful of brandy, in which a lump of sugar has been dissolved.

Let the white and yolk of an egg be beaten up in a wineglassful of water, with fifteen drops of brandy and white sugar. Two eggs thus treated, in the twenty-four hours, will serve for the food of an infant brought up by hand.

18. *Bread Jelly.*

Take a quantity of the soft part of a loaf, break it up, cover it with boiling water, and allow it to soak for some hours. The water—containing all the noxious matters with which the bread may be adulterated—is then to be strained off completely, and fresh water added; place the mixture on the fire, and allow it to boil for some time until it becomes smooth; the water is then to be pressed out, and the bread on cooling will form a thick jelly. Mix a portion of this with sugared milk and water, for use as it is wanted.—Dr. CHURCHILL. *A good food for infants at the time of weaning, and for children with acute disease, &c.*

19. *Nutritious Demulcent Drinks.*

Mix together half a pint of Mucilago Acaciæ, Mistura Amygdalæ, and pure milk; sweeten with sugar-candy or honey; and add one large tablespoonful of any liqueur. Allow the whole to be taken during the day. Or, a large pinch of isinglass may be boiled with a tumblerful of milk, half a dozen bruised almonds, and two or three lumps of sugar. To be taken warm once or twice in the day.

These drinks are very grateful in cases of tonsillitis, ulceration of the pharynx, &c.; also in some cases of debility, with irritability of the stomach, and a tendency to diarrhœa.

20. *Indian Sarsaparilla and Barley Water.*

℞. Syrupi Hemidesmi, fl. oz. 2; Glycerini, fl. oz. 1; Decocti Hordei, fl. oz. 9. Mix, and direct one tablespoonful to be taken frequently. *An agreeable demulcent, slightly alterative, and diaphoretic mixture. Useful in the eruptive fevers, and for inflammation of the mucous membranes.*

21. *Beef Tea and Cream Enema.*

An excellent nutritious enema can be made by mixing together from four to eight ounces of strong beef tea, an ounce of cream, and half an ounce of brandy or an ounce and a half of port wine. It may be administered twice or thrice in the course of twenty-four hours. *In cases of acute gastritis, carcinoma of the stomach, obstinate vomiting, &c., where it is necessary to avoid giving food by the mouth.*

Another form may run thus:—Take four or six ounces of restorative soup prepared without any acid (F. 3), one ounce of cream, two teaspoonfuls of brandy, and either fifteen minims of liquid extract of opium, or ten grains of citrate of iron and quinia.

21*a*. *Peptonised Enema.*

Mix four ounces of strong beef tea with four ounces of milk-gruel. Add half a small teaspoonful of bicarbonate of soda and a dessertspoonful of liquor pancreaticus (see F. 4*a*), and administer at once. The pancreatic digestion is favoured by the warm temperature of the rectum.

Zyminised suppositories, one with peptonised meat, the other with peptonised milk, are prepared by Messrs. Burroughs, Wellcome & Co.

22. *Cod Liver Oil and Bark Enema.*

Take four ounces of milk, one ounce of port wine, half an ounce of cod liver oil, two drachms of tincture of yellow cinchona, and twenty minims of liquid extract of opium. Mix. To be administered every twelve hours.

23. *Quinine and Solution of Beef Enema.*

Take one tablespoonful of brandy, five grains of sulphate of quinine, one teaspoonful of glycerine, two tablespoonfuls of cream, and from four to eight ounces of restorative soup (F. 3). Mix. This enema can be administered every six or eight hours. Where the rectum is very irritable, or it is necessary to relieve pain, from fifteen to twenty minims of the liquid extract of opium may be advantageously added.

In all nutrient enemata LIEBIG'S extract may be advantageously substituted for domestic beef tea, the solid particles floating in which are not absorbed. The value of milk also when given by the bowel is doubtful. When nutritive enemata are required for any length of time the rectum should be occasionally washed out by a copious injection of warm water to prevent irritation by accumulation and decomposition of unabsorbed residuum.

II. ALTERATIVES AND RESOLVENTS.

24. *Compound Pill of Calomel and Opium.*

℞. Pilulæ Hydrargyri Subchloridi Compositæ, gr. 5; Extracti Opii, gr. ½. Make a pill, and direct it to be taken every night, or night and morning. *In disorders dependent on a venereal taint.*

25. *Calomel and Opium.*

℞. Hydrargyri Subchloridi, gr. 2; Pulveris Opii, gr. ¼; Confectionis Rosæ Gallicæ, sufficient to make a pill. To be taken every four hours. *As an alterative, when it is wished to get the system quickly under the influence of mercury.*

26. *Mercury and Conium, or Quinine.*

℞. Hydrargyri cum Cretâ, gr. 2; Extracti Conii, gr. 3. Mix, and form a pill to be taken three times a day. *In syphilitic tubercular diseases.*

℞. Hydrargyri cum Cretâ, gr. 1—3; Quininæ Sulphatis, gr. 1; Extract Gentianæ, gr. 1. Mix, and form a pill, to be taken three times a day. *A convenient form of administering mercury in secondary syphilis, and little liable to give rise to troublesome salivation.*

27. *Perchloride of Mercury, or Corrosive Sublimate.*

℞. Hydrargyri Perchloridi, gr. 1; Ammonii Chloridi, gr. 5; Extracti Sarsæ Liquidi, fl. drs. 12; Decoctum Sarsæ Compositi, ad fl. oz. 12. Mix. Direct,—"Two small teaspoonfuls to be taken three times a day." *In confirmed constitutional syphilis; as well as in some forms of eczema, prurigo, follicular vaginitis, chronic metritis, &c.*

℞. Hydrargyri Perchloridi, gr. 1; Glycerini, fl. oz. 1; Tincturæ Cinchonæ Compositæ, ad fl. oz. 3; Olei Menthæ Piperitæ, min. 25. Mix. Direct,—"One teaspoonful in a wineglassful of water three times a day." *In constitutional syphilis, some forms of hæmorrhage, and certain varieties of vertigo.*

℞. Hydrargyri Perchloridi, gr. 1; Extracti Opii, gr. 3—6; Guaiaci Resinæ, gr. 100; Glycerini, sufficient to make a mass. Divide carefully into twenty-four pills, and order two to be taken three times a day. *In some varieties of chronic rheumatism, secondary syphilis, and skin diseases.*

28. *Mercury, Squills, and Digitalis.*

℞. Pilulæ Hydrargyri, gr. 1—3; Digitalis Foliæ, gr. ½; Pulveris Scillæ, gr. 1½. Mix, and form a pill to be taken twice or three times a day. *As an alterative and diuretic, in some cases of dropsy.*

29. *Perchloride of Mercury and Sarsaparilla.*

℞. Hydrargyri Perchloridi, gr. $\frac{1}{12}$; Extracti Sarsæ Liquidi, fl. drs. 2;

Decocti Sarsæ Compositi, fl. drs. 10. Mix. To be taken three times a day. *In syphilitic lepra, and obstinate secondary syphilitic eruptions.*

30. *Podophyllum Peltatum, or May-apple.*

℞. Podophylli Resinæ, gr. $\frac{1}{8}$—$\frac{1}{3}$; Pulveris Ipecacuanhæ, gr. $\frac{1}{2}$; Extracti Gentianæ, gr. 3. Mix. Make a pill, to be taken twice or thrice daily. *In syphilis, scrofula, jaundice from suppression, skin diseases, &c. As a simple alterative it is said to resemble mercury, without possessing any injurious qualities. One or two grains of quinine may be advantageously added to each pill, where there is general debility.* See F. 160.

31. *Iodide of Potassium Mixtures.*

℞. Potassii Iodidi, gr. 20—30; Tincturæ Serpentariæ, fl. drs. 3; Misturam Guaiaci, ad fl. oz. 8. Mix. One-sixth part to be taken three times a day. *Valuable in chronic and gonorrhœal rheumatism, in lumbago, some forms of neuralgia, &c.*

℞. Potassii Iodidi, gr. 30; Potassii Bicarbonatis, gr. 60; Tincturæ Hyoscyami, fl. drs. 3; Infusum Cinchonæ Flavæ (B.P. 1867), ad fl. oz. 8. Mix. One-sixth part three times a day. *In chronic rheumatism with an abundance of lithates in the urine; as well as in some cases of eczema, &c.*

℞. Potassii Iodidi, gr. 2; Vini Colchici, min. 15; Tincturæ Aconiti, min. 3—8; Infusi Rhei, fl. oz. 1. Make a draught, to be taken three times a day. *In acute and suppressed and chronic gout.*

℞. Potassii Iodidi, gr. 3—5; Spiritûs Ammoniæ Aromatici, min. 40; Tincturæ Belladonnæ, min. 5—15; Tincturæ Cinchonæ Compositæ, fl. dr. 1; Aquam Menthæ Piperitæ, ad fl. oz. $1\frac{1}{2}$. Make a draught. To be taken three times a day. *In cases of asthma remarkable benefit has sometimes resulted from this formula.*

℞. Potassii Iodidi, gr. 15—30; Vini Colchici, min. 90; Tincturæ Hyoscyami, fl. drs. 6; Magnesii Sulphatis, gr. 240; Infusum Anthemidis, ad fl. oz. 8. Mix. One-sixth part three times a day. *In some instances of gout with fever and constipation, and in chronic pleurisy with effusion. Also in cases of lead and mercurial poisoning occurring in gouty subjects.*

℞. Potassii Iodidi, gr. 60; Tincturæ Rhei, fl. oz. 1; Extracti Sarsæ Liquidi, fl. oz. 2. Mix. Label,—"A small teaspoonful in a wineglassful of water three times a day." *In syphilitic skin diseases, in nodes, and in follicular inflammation of the pharyngo-laryngeal mucous membrane, &c.*

℞. Potassii Iodidi, gr. 100—400; Ammonii Carbonatis, gr. 30; Tincturæ Aurantii, fl. oz. $1\frac{1}{2}$, Aquam, ad fl. oz. 6. Mix. A tablespoonful to be taken three times a day in a wineglass of water, or with two ounces of Decoction of Sarsaparilla. *In syphilitic disease of the nervous system or severe forms of tertiary syphilis. Large doses of the iodide of potassium are better borne after meals.*

℞. Potassii Iodidi, gr. 30—120; Glycerini, fl. oz. 1; Tincturæ Aconiti, min. 20; Vini Ipecacuanhæ, fl. drs. 2; Succi Taraxaci, fl. drs. 6; Decoctum Sarsæ Compositi, ad fl. oz. 8. Mix. One-sixth part three times a day. *In severe gonorrhœal rheumatism, tertiary syphilis, secondary spreading syphilitic ulcers, bronchocele, scrofulous sores, aneurism, &c.*

℞. Potassii Iodidi, gr. 15; Tincturæ Assafœtidæ, min. 90; Tincturæ Senegæ, fl. drs. 3; Syrupum Mori, ad fl. oz. 3. Mix. Label,—"One teaspoonful every two, three, or four hours." *For a child about two years old, suffering from croup.*

℞. Potassii Iodidi, gr. 24; Liquoris Ammonii Acetatis, fl. oz. 1; Vini Ipecacuanhæ, min. 40; Spiritûs Chloroformi, fl. drs. $1\frac{1}{2}$; Tincturæ Camphoræ Compositæ, fl. drs. 4; Aquam, ad fl. oz. 8. Mix. An eighth part to be taken every three or four hours. *In bronchitis and pneumonia.*

32. *Iodide of Ammonium.*

℞. Ammonii Iodidi, gr. 3—15; Infusi Cinchonæ Flavæ (B.P. 1867), fl. oz. 1—2. Make a draught. To be taken twice or thrice daily before food. *Very valuable in strumous enlargement of the absorbent glands. The dose is to be graduated according to the patient's age. At the time this medicine is given internally, an ointment of the iodide of ammonium* (gr. 60 to lard oz. 1) *should be rubbed into the swellings night and morning.*

33. *Iodide of Sodium.*

℞. Sodii Iodidi, gr. 60; Decocti Sarsæ Compositi, fl. oz. 8. Mix. One-sixth part three times a day. *As an antisyphilitic where the iodide of potassium disagrees. Moreover, it will sometimes effect a cure after the latter has failed to be of use.*

Iodide of Sodium or of Ammonium may be substituted for Iodide of Potassium in the formulæ of No. 31.

34. *Iodide of Iron Mixtures.*

℞. Potassii Iodidi, gr. 30; Ferri et Ammonii Citratis, gr. 60; Aquæ Destillatæ, fl. drs. 2; Glycerini, fl. drs. 6; Olei Menthæ Piperitæ, min. 10; Oleum Morrhuæ, ad fl. oz. 6. Mix. One tablespoonful after the two chief meals of the day.

℞. Potassii Iodidi, gr. 12; Ferri et Quininæ Citratis, gr. 30; Tincturæ Aconiti, min. 25; Infusi Chiratæ, fl. oz. 6. Mix. One-sixth part three times a day. *In chronic rheumatism with debility, &c.*

℞. Tincturæ Ferri Perchloridi, Tincturæ Iodi, āā min. 10; Aquæ Camphoræ, fl. oz. 1. Make a draught, to be taken three times a day. *Useful in strumous affections of the cervical glands, and some cutaneous disorders.*

℞. Syrupi Ferri Iodidi, Extracti Sarsæ Liquidi, āā fl. oz. 1. Mix. Direct,—"One teaspoonful in two tablespoonfuls of water three times a day." *In chronic rheumatism, old-standing venereal affections, &c.*

℞. Potassii Iodidi, gr. 3—8; Ferri et Ammonii Citratis, gr. 20; Syrupi Papaveris, fl. drs. 3; Infusum Quassiæ, ad fl. oz. 4. Mix. One tablespoonful three times a day. *For tuberculous children.*

35. *Iodide of Potassium and Mercury.*

℞. Ammonii Carbonatis, gr. 30; Potassii Iodidi, gr. 20—120; Tincturæ Aconiti, min. 30; Tincturæ Chloroformi Compositæ, fl. dr. 1; Tincturæ Cinchonæ, fl. drs. 6; Aquam Menthæ Piperitæ, ad fl. oz. 8. Mix. Direct,—"One-sixth part three times a day—viz., at 9 A.M., 2 P.M., and 7 P.M." At the same time,—

℞. Hydrargyri Iodidi Viridis, gr. 2; Extracti Opii, gr. 1; Extracti lyoscyami, gr. 6. Mix, divide into two pills, and order one to be taken very night at 11 o'clock as long as the mixture is continued. *Very seful in many forms of constitutional syphilis, with sleepless nights.*

36. *Mercury and Chalk, with Dover's Powder, &c.*

℞. Hydrargyri cum Cretâ, Pulveris Ipecacuanhæ Compositi, āā gr. 5. lix, and make a powder to be taken every eight or twelve hours. *In iarrhœa with unhealthy secretions, and in mild dysentery.*

℞. Sodii Bicarbonatis, Hydrargyri cum Cretâ, āā gr. 2; Magnesii arbonatis, gr. 5. Mix, and make a powder to be taken every other ght. *An alterative and aperient for children, where there is great idity of the secretions.*

℞. Hydrargyri cum Cretâ, gr. 1—2; Pulveris Rhei, Sodii Bicarbonatis, i gr. 2—4. Mix, and make a powder to be taken every night or every her night. *An alterative and aperient for children when the stools are le, or during feverishness attending dentition, &c.*

37. *Mercury and Iron.*

℞. Liq. Ferri Perchloridi, min. 80; Liq. Hydrargyri Perchloridi, fl. s. 4; Infusum Quassiæ, ad fl. oz. 8. Mix. Label,—"An eighth part be taken three times a day."

38. *Tar Pills and Capsules.*

℞. Picis Liquidæ, oz. 1; Pulveris Cinnamomi Compositi, oz. ½. Mix, vide into five-grain pills, and order two or three to be taken three times day.

TAR CAPSULES are made, each containing about six grains of tar. wo or three may be taken for each dose, thrice daily. *In some chronic in diseases, eczema, bronchitis, and chronic catarrhal affections.*

39. *Benzoate of Ammonia.*

℞. Ammonii Benzoatis, gr. 10—20; Syrupi Aurantii Floris, fl. dr. 1; quam, ad fl. drs. 12. Mix for a draught to be taken three times a y. *In chronic bronchitis, hepatic congestion with deficient urine, ronic inflammation of the bladder with alkaline urine, in cases tended with the copious excretion of phosphates and gouty diabetes.*

40. *Creasote.*

℞. Creasoti, min. 20—40; Pulveris Cinnamomi Compositi, gr. 80; ucilaginis Acaciæ, sufficient to form a mass. Divide into twenty pills, d order one or two to be taken three times a day. *In some forms of uralgia, chronic bronchitis, and obstinate vomiting unconnected with lammation or organic disease—such as sea-sickness. After taking asote for a short time, the urine occasionally assumes a dirty or brown- -black colour. Inunction with tar may give rise to the same effect.*

In the officinal MISTURA CREASOTI the unpleasant flavour is tolerably ll disguised by the Spirit of Juniper. Dose of the mixture, fl. oz. 1—2. F. 90.

41. *Bromide of Potassium.*

℞. Potassii Bromidi, gr. 20—40; Aquæ Camphoræ, fl. oz. 3. Mix for raught, to be taken every night at bedtime. *For insomnia without* *any apparent cause, epileptic and epileptoid seizures, paroxysmal verti and headache, &c.*

℞. Potassii Bromidi, gr. 60—150; Potassii Iodidi, gr. 12; Potas Bicarbonatis, gr. 40; Tincturæ Aurantii, fl. drs. 6; Infusum Auran Compositi, ad fl. oz. 8. Mix. One-sixth part, on an empty stomac night and morning. *The favourite remedy for epilepsy* (1865).

℞. Potassii Bromidi, gr. 30—60; Tincturæ Valerianæ Ammoniatæ, drs. 6; Aquam Camphoræ, *vel* Infusum Chiratæ, ad fl. oz. 8. Mix. On sixth part three times a day. *In hysteria, insomnia due to nervous irr tability, functional disturbance of the uterine functions, spermatorrh from bad habits, &c.*

42. *Bromide of Ammonium.*

℞. Ammonii Bromidii, gr. 60; Infusi Aurantii, fl. oz. 8. Mix Direc —"One-sixth part to be taken three times a day, an hour before meals *In epilepsy, nervous irritability, insomnia, &c.*

It is said to facilitate laryngoscopic examination by diminishing th sensibility of the soft palate.

℞. Ammonii Bromidi, gr. 24; Tincturæ Belladonnæ, min. 20, Aqua fl. oz. 2. Mix. One teaspoonful in a small cup of sweetened tea thre times a day. *For an infant with whooping cough.*

43. *Guaiacum Mixtures.*

℞. Tincturæ Guaiaci Ammoniatæ, fl. drs. 4; Tincturæ Aconit min. 30; Mucilaginis Tragacanthæ, Aquæ Cinnamomi, aa fl. oz. 4. Mi Two tablespoonfuls twice or three times a day. *In the chronic rheuma tism of old and weak people. Also in some skin diseases where there is strumous taint.*

℞. Extracti Opii Liquidi, min. 30; Tincturæ Quininæ, fl. drs. 6 Misturam Guaiaci, ad fl. oz. 8. Mix. One-sixth part three times day. *In chronic skin diseases. Guaiacum has also been highly extolle in tonsillitis, but for this it is best taken in lozenges.*

℞. Sulphuris Sublimatæ, oz. 2; Potassii Tartratis Acidæ, oz. 2; Pulveris Rhei, gr. 120; Guaiaci Resinæ, gr. 60; Mellis, lb. 1; Myristicam unam in pulverem redactam. Mix thoroughly, and order two teaspoonfuls to be taken night and morning until the whole is consumed. *Thi compound was formerly in much repute for the cure of chronic rheumatism: being said to be especially useful in old standing cases, when the skin is inactive and the intestinal glands, &c., torpid. It was well known under the name of the "Chelsea Pensioner."*

℞. Tincturæ Nucis Vomicæ, min. 80; Extracti Cinchonæ Flavæ Liquidi (B.P. 1867), min. 80; Misturæ Guaiaci, fl. oz. 12. Mix. One-eighth part twice a day. *In habitual constipation from a sluggish condition of the intestinal walls.*

44. *Quinine and Ipecacuanha, or Belladonna.*

℞. Quininæ Sulphatis, gr. 8; Pulveris Ipecacuanhæ, gr. 24; Pulveris Ipecacuanhæ Compositi, gr. 30; Glycerini, sufficient to form a mass. Divide into sixteen pills, and order two to be taken every three or four hours. *In subacute dysentery, occurring in tropical regions.* See F. 384.

℞. Quininæ Sulphatis, gr. 2; Extracti Belladonnæ, gr. ⅓; Extracti Opii, gr. ½—1; Extracti Hyoscyami, gr. 2. Make a pill to be taken, every six or eight hours. *In neuralgia, severe pruritus of the vulva, carcinoma, &c.* See F. 383.

45. *Chloride of Calcium, &c.*

℞. Calcii Chloridi, gr. 200; Tincturæ Belladonnæ, fl. drs. 4; Tincturæ Aurantii, fl. drs. 12; Aquæ, fl. oz. 1. Mix and label,—"One teaspoonful in a wineglassful of water three times a day,—at 10 A.M., 4 P.M., and bedtime. *In bronchocele, enlargement of cervical glands, scrofula, &c.*

℞. Calcii Chloridi, gr. 300; Succi Conii, fl. oz. 3; Glycerini puri *vel* Tincturæ Cardamomi Compositæ, fl. oz. 1. Mix and label,—"One teaspoonful in a wineglassful of water three times a day."

46. *Colchicum, &c.*

℞. Hydrargyri Subchloridi, Extracti Colchici Acetici, Extracti Aloes Barbadensis, Pulveris Ipecacuanhæ, āā gr. 1. Make a pill, to be taken every four hours until the bowels are well acted upon. *In gout, with congestion of the liver.*

℞. Extracti Colchici Acetici, Extracti Aconiti, āā gr. 1; Pilulæ Hydrargyri, gr. 3. Make a pill, to be taken every night at bedtime. *In gout, with deficient action of the liver.*

℞. Potassii Citratis, gr. 120; Vini Colchici, fl. drs. 1—2; Liquoris Morphinæ Hydrochloratis, fl. dr. 1; Aquam Camphoræ, ad fl. oz. 8. Mix. One-sixth part every six hours. *In some forms of gout, where there is great restlessness with but little constitutional depression.*

℞. Spiritûs Ammoniæ Aromatici, fl. drs. 6; Vini Colchici, fl. drs. 2—4; Tincturæ Aurantii, ad fl. oz. 2. Mix. Direct,—"One teaspoonful in half a bottle of soda water, three times a day."

47. *Oxide of Silver.*

℞. Argenti Oxidi, gr. 1—2; Pulveris Aromatici, gr. 2; Extracti Cannabis Indicæ, gr. ½; Glycerini, sufficient to make a pill. To be aken three times a day. *Of efficacy in menorrhagia.* One-third of a grain of Extract of Opium can be added to each pill, if needed.

48. *Sulphurous Acid.*

℞. Sodii Hyposulphitis, gr. 30; Infusi Quassiæ, fl. oz. 1½. Mix, and nake a draught to be taken three times a day.—SIR WILLIAM JENNER. *n diseases of the stomach, accompanied by the formation of the sarcinæ ventriculi. The patient should eat unfermented bread while taking this medicine.*

The SULPHITE OF MAGNESIA may be given in doses varying from 0 to 40 grains, dissolved in one or two ounces of water, every two or hree or four hours, with the object of neutralising blood poisons. It s richer in sulphurous acid than the sulphite of soda, is more stable, nd has a much more agreeable taste. This salt has been strongly ecommended by Dr. POLLI, of Milan, in cases of pyæmia, typhus, puerperal fever, hospital gangrene, dissecting wounds, glanders, cholera, &c.

49. *Benzoic Acid.*

℞. Acidi Benzoici, gr. 3—20; Glycerini, sufficient to form one or more pills. *This remedy is said to be useful in jaundice from suppress action of the liver. It has also been recommended in catarrh of t bladder.*

50. *Turpentine Mixtures.*

℞. Olei Terebinthinæ, fl. dr. 1—3; Syrupi Scillæ *vel* Syru Tolutani, fl. oz. 1; Tincturæ Camphoræ Compositæ. fl. drs. Mucilaginem, ad fl. oz. 3. Mix. A dessertspoonful to be taken thr or four times a day. *Useful in chronic bronchitis with profuse muc purulent expectoration.*

℞. Olei Terebinthinæ, fl. oz. 1; Vitelli Unius Ovi; beat togetheran add gradually Misturæ Amygdalæ, fl. oz. 4; Syrupi Aurantii, fl. oz. 2 Tincturæ Lavandulæ Compositæ, fl. drs. 4; Olei Cinnamomi, guttæ Mix. Two tablespoonfuls to be taken three times a day.

℞. Spiritûs Ætheris, fl. drs. 2; Olei Terebinthinæ, fl. drs. 1½; Muc laginis Acaciæ, fl. oz. 3; Aquam Cinnamomi, ad fl. oz. 6. Mix Direct,—"One-sixth part three times a day."

℞. Olei Terebinthinæ, fl. drs. 1½—3; Syrupi Limonis, fl. drs. 6 Mucilaginis Tragacanthæ, fl. oz. 3; Aquam, ad fl. oz. 6. Mix Direct,—"One-sixth part every four or six hours." *Useful in som forms of hæmatemesis, hæmoptysis, epistaxis, purpura hæmorrhagic &c. Its effects must be watched so that it may be discontinued direct any unpleasant results—such as strangury or severe vomiting—arise If the symptoms are very urgent the first dose of the turpentine ma consist of* fl. drs. 4—6, *beaten up with mucilage; the succeeding dose being according to the formula. In some cases the turpentine may b advantageously given with gallic acid, or the tincture of the perchlori of iron, or with the acid infusion of roses, or with the dilute nitric aci A drop of creasote with each dose materially lessens its tendency to caus nausea.*

℞. Terebinthinæ Chiæ, gr. 2; Pulveris Rhei, gr. 3; Saponis duri sufficient to make a pill. To be taken twice a day. See also F. 102.

℞. Terebinthinæ Chiæ, gr. 6; Sulphuris Sublimati, gr. 4. Mak two pills, to be taken every four hours.

℞. Terebinthinæ Chiæ, dr. 1; Ætheris, fl. drs. 2. Dissolve and add Sulphuris Sublimati, gr. 20; Mucilaginis Tragacanthæ, fl. oz. 2; Syrupi, fl. drs. 4; Aquam, ad fl. oz. 8. Two tablespoonfuls three times a day.

Chian turpentine has been recommended by MR. CLAY, *of Birmingham, as a cure for uterine cancer. Other observers have not been successful with this remedy. The genuine drug is not easily obtained.*

51. *Donovan's Triple Solution.*

℞. Liquoris Hydriodatis Arsenici et Hydrargyri, min. 20—30; Tincturæ Zingiberis, fl. dr. 1; Aquæ, fl. oz. 1. Make a draught, to be taken twice a day, directly after meals. *Useful in secondary syphilis, psoriasis, &c The Liquor Arsenii et Hydrargyri Iodidi of the B. P.* 1885, *is rather stronger than the old Donovan's Solution.*

52. *Arsenical Mixtures.*

℞. Liquoris Arsenicalis, min. 3; Tincturæ Lupuli, min. 30; Infusi Quassiæ, fl. oz. 1. Make a draught, to be taken three times a day, directly after meals. *Very useful in many obstinate cutaneous diseases. In ague the quantity of arsenic must be trebled. Under any circum-*

stances, the dose should be diminished directly the tongue gets thoroughly coated with a silvery-looking fur, or the conjunctivæ become irritable, or diarrhœa sets in, or gastric pain is complained of.

℞. Liquoris Sodii Arseniatis, min. 3—5; Vini Colchici, min. 10; Tincturæ Cinchonæ Compositæ, fl. dr. 1; Tincturæ Aconiti, min. 5; Aquam, ad fl. oz. 1. Mix. To be taken three times a day, directly after meals. *In some forms of chronic rheumatism, &c.*

℞. Quininæ Sulphatis, gr. 20; Liquoris Arsenici Hydrochlorici, min. 90—130; Syrupum Zingiberis, ad fl. oz. 3. Mix. Label,—"One teaspoonful in two tablespoonfuls of water directly after breakfast, dinner, and tea." *In severe neuralgia, chorea, chronic rheumatism, asthma, hay fever, and intermittent fever.* See F. 381. 399.

℞. Liquoris Arsenicalis, min. 30; Tincturæ Aurantii, fl. drs. 3; Potassii Iodidi, gr. 18—30; Infusum Aurantii, ad fl. oz. 6. Mix. One-sixth part directly after the two chief meals. *Valuable in some inveterate cutaneous diseases, as lupus, eczema, psoriasis, &c.*

℞. Liquoris Sodii Arseniatis, fl. dr. 1½; Succi Scoparii, fl. oz. 3. Mix. One teaspoonful three times a day, in a wineglassful of water. *In some cases of dropsy from chronic renal disease.*

℞. Acidi Arseniosi, gr. 1; Pulveris Zingiberis, gr. 40; Pulveris Tragacanthæ Compositi, gr. 30; Confectionis Rosæ Caninæ, gr. 10. Mix very intimately, divide into twenty pills, and order one to be taken three times a day, immediately after meals. *In psoriasis, chronic eczema, and other cases where it is desirable to administer arsenic in a solid form.*

53. *Green Iodide of Mercury.*

℞. Hydrargyri Iodidi Viridis, gr. 12; Extracti Lupuli, gr. 60; Extracti Opii, gr. 2—5. Mix. Divide into twenty-four pills, silver them, and order one to be taken three or four times in the day. *The green iodide of mercury* (Syn. IODIDE OF MERCURY) *will cure some of the pustular and tubercular diseases of the skin, as well as certain secondary venereal ulcerations, when all other means fail.* See F. 33.

℞. Hydrargyri Iodidi Viridis, gr. 6; Extracti Conii, gr. 30. Mix. Divide into six pills, and order one to be taken every night at bedtime. *In small secondary syphilitic ulcers about the tongue.*

54. *Red Iodide of Mercury.*

℞. Hydrargyri Iodidi Rubri, gr. 1; Morphinæ Hydrochloratis, gr. ; Extracti Gentianæ *vel* Extracti Conii, gr. 40. Mix. Divide into welve pills, and order one to be taken twice a day. Four or six ounces f the Compound Decoction of Sarsaparilla may be taken with each pill, or an ounce of the Guaiac Mixture. *Useful in the same cases as lemand the green iodide of mercury.*

℞. Hydrargyri Perchloridi, gr. 1; Ammonii Chloridi, gr. 30; Potassii Iodidi, gr. 40; Extracti Sarsæ Liquidi, fl. oz. 4; Decoctum Sarsæ, ad fl. oz. 8. Mix and label,—"One small tablespoonful (or one-sixteenth part) in a wineglassful of water three times a day." *This formula gives a convenient extemporaneous mode of exhibiting the red iodide of mercury in a fluid form.*

℞. Hydrargyri Iodidi Rubri, gr. 3; Potassii Iodidi, gr. 60—120 Spiritûs Vini Rectificati, fl. dr. 1; Syrupi Zingiberis, fl. drs. 4; Aquæ

Destillatæ, fl. drs. 12. Mix. Label,—"Thirty drops three times a da in a wineglassful of water." MR. LANGSTON PARKER *says that thi remedy, used in conjunction with the mercurial vapour bath, produce excellent results in some obstinate forms of tubercular disease of the skin as well as in secondary venereal ulcerations, proving intractable after th employment of other remedies.*

55. *Red Iodide of Mercury and Arsenic.*

℞. Hydrargyi Iodidi Rubri, gr. 1; Potassii Iodidi, gr. 120; Liquori Arsenicalis, fl. dr. 1½; Tincturæ Lavandulæ Compositæ, fl. oz. 2 Spiritûs Chloroformi, fl. drs. 4; Aquam, ad fl. oz. 12. Mix; and direc —"One tablespoonful to be taken three times a day, immediately afte food." *In psoriasis, and some inveterate squamous and tubercular an ulcerous affections of the skin.*

56. *Iridin and Euonymin.*

℞. Iridin, gr. 4; Confection of Roses, sufficient to make a pill. T be taken at bedtime occasionally.

℞. Euonymin, gr. 2; Confection of Roses, sufficient to make pill.

Iridin and Euonymin are recommended by PROF. RUTHERFORD, *o Edinburgh, as very effective remedies for biliousness. A dose of Püllna water or other saline aperient should be taken early next morning.*

57. *Hydrastis.*

℞. Tincturæ Hydrastis, fl. drs. 2—4; Aquæ Destillatæ, fl. oz. 8. Mix. Two tablespoonfuls three or four times daily.

Useful for constipation referable to a sluggish liver. Hydrastis is useful also for piles and prolapsus ani. It is a stomachic tonic, and relieves the gastric catarrh of chronic alcoholism. It has been of service in intermittent fever and metrorrhagia.

58. *Sulphide of Calcium.*

℞. Calcii Sulphidi, gr. $\frac{1}{10}$—½; Sacchari Lactis, gr. 1. Make a powder. To be taken every two or three hours.

A very useful remedy for slow suppuration, boils, scrofulous sores, and enlarged glands.

59. *Nitrate of Silver.*

℞. Argenti Nitratis, gr. 1; Extracti Hyoscyami, gr. 3. Make a pill. To be taken every twelve hours, on an empty stomach, for about ten days. *In cases of idiopathic jaundice dependent upon gastro-duodenal disturbance rather than on disease of the liver.*

℞. Argenti Nitratis, gr. 2—12; Micæ panis, gr. 30. Divide into twelve pills, and order one to be taken three times a day. *In progressive locomotor ataxy, &c.* See F. 419. The gums should be watched, as the gingival mucous membrane becomes discoloured before the skin is affected. There is consequently time to prevent the latter by discontinuing the silver salt.

60. *Chloride of Ammonium.*

℞. Ammonii Chloridi, gr. 80—100; Syrupi Hemidesmi, fl. oz. 1; Infusi Gentianæ Compositi, fl. oz. 7. Mix. Two tablespoonfuls every six hours. *In some forms of chronic rheumatism, chronic bronchitis, pleurodynia, myalgia, neuralgia, &c.*

℞. Liquoris Ammonii Acetatis, fl. drs. 2—4; Ammonii Chloridi, gr. 15; Infusi Dulcamaræ, fl. oz. 2. Make a draught to be taken every four hours. *In some varieties of rheumatism, phlegmasia dolens, thrombosis, &c., where the fibrin of the blood is in excess.* The efficacy of this remedy is increased by giving 120 or 200 grains of the Acid Tartrate of Potash (Syn. BITARTRATE OF POTASH) in half a pint of water, early in the morning.

℞. Ammonii Chloridi, gr. 20; Extracti Taraxaci, gr. 15; Tincturæ Gentianæ Compositæ, fl. dr. 1; Infusi Sennæ, fl. oz. 2. Make a draught, to be taken twice or thrice daily. *In some cases of ascites dependent on cirrhosis, in jaundice, in diminished secretion of bile, &c.*

61. *Chlorate of Potash.*

℞. Potassii Chloratis, gr. 120; Aquæ Camphoræ *vel* Infusi Cinchonæ Flavæ, fl. oz. 8. Mix. One-sixth part every four or six hours, with two tablespoonfuls of water. *In inflammatory affections of the mouth, &c.*

℞. Potassii Chloratis, gr. 120. Label,—"This powder to be dissolved in one or two pints of lemonade, or of barley water, to form a day's drink." *In cases of aphthæ, fever, blood-poisoning, sloughing of any of the tissues, &c.*

III. ANTACIDS.

62. *Carbonate of Magnesia.*

℞. Magnesii Carbonatis, gr. 80; Extracti Nucis Vomicæ, min. 30; Spiritûs Ætheris, fl. drs. 3; Aquam Menthæ Viridis, ad fl. oz. 6. Mix. One-fourth part occasionally. *Useful where there is much oppression from flatulence.*

℞. Magnesii Carbonatis, Sodii Bicarbonatis, āā gr. 15; Infusi Serpentariæ, fl. drs. 12. Make a draught, to be taken twice or thrice daily. *In chronic urticaria.*

63. *Ammonia and Chiretta or Gentian.*

℞. Sodii Bicarbonatis, gr. 120; Spiritûs Ammoniæ Aromatici, fl. drs. 2; Tincturæ Zingiberis, fl. dr. 1; Infusum Gentianæ Compositi, ad fl. oz. 8. A sixth part to be taken three times a day. *Useful in dyspepsia with acidity.*

64. *Preparations of Lithia.*

℞. Lithii Carbonatis, gr. 3—6; Aquæ, fl. oz. 3. Make a draught to be taken twice a day. DR. GARROD *speaks highly of this remedy in cases of the uric acid diathesis and in chronic gout. Where uric acid gravel is being voided, it causes a marked improvement. The carbonate of lithia exists in many of the continental springs—as those of Carlsbad, Marienbad, Kreuznach, Aix-la-Chapelle, Kissengen, Ems, Vichy, Baden-Baden, &c.*

℞. Lithii Citratis, gr. 60; Aquæ Destillatæ, fl. drs. 10; Tincturæ Cardamomi Compositæ, fl. drs. 2. Mix,—"One teaspoonful in a tumblerful of soda water every morning before breakfast." *In the gouty diathesis. To ward off attacks.*

65. *Bismuth, with Magnesia or Soda.*

℞. Bismuthi Carbonatis, Magnesii Carbonatis, āā gr. 10. Make a powder, to be taken in half a bottle of soda water three times a day.

℞. Bismuthi Subnitratis, gr. 120; Magnesii Carbonatis, gr. 60; Acidi Hydrocyanici Diluti, min. 18—30; Tincturæ Calumbæ, fl. drs. 3—6; Mucilaginem Tragacanthæ, ad fl. oz. 6. Mix. A tablespoonful to be taken three times a day half an hour before food. *Useful in flatulent dyspepsia with gastralgia.*

℞. Liquoris Bismuthi et Ammonii Citratis, fl. dr. 1; Infusi Quassiæ, fl. oz. 1. Make a draught to be taken three times a day. *These preparations are very useful in pyrosis, gastrodynia, acid eructations, nausea and sickness, and many diseases of the stomach, cæcum, &c.* See also F. 112.

℞. Bismuthi Subnitratis, gr. 720; Magnesii Carbonatis, oz. 2; Calcis Carbonatis Præcipitati, oz. 3; Sodii Bicarbonatis, gr. 1800; Sacchari Albi, oz. 14; Acaciæ Gummi, gr. 220; Mucilaginis Acaciæ, fl. oz. 1; Aquæ Rosæ, sufficient to make a mass. Divide into 360 lozenges, and dry them with a moderate heat.

Each lozenge contains two grains of subnitrate of bismuth, two and a half grains of magnesia, and five grains of bicarbonate of soda. From one to six lozenges may be taken for a dose. They check heartburn and acid eructations better than the officinal bismuth lozenges.

66. *Chalk Mixture and Hops.*

℞. Tincturæ Lupuli, fl. drs. 6; Tincturæ Cardamomi Compositæ, fl. drs. 4; Vini Ipecacuanhæ, fl. drs. 2; Extracti Opii Liquidi, min. 25; Misturam Cretæ, ad fl. oz. 6. Mix. One tablespoonful every three or four hours. *In diarrhœa due to acidity of the primæ viæ.*

67. *Potash and Ammonia.*

℞. Potassii Bicarbonatis, gr. 120; Spiritûs Ammoniæ Aromatici, fl. drs. 3; Tincturæ Aconiti. min. 30; Infusum Lupuli, ad fl. oz. Mix. One-sixth part three times a day. *In gastrodynia.*

68. *Ammonia, Potash, and Bark.*

℞. Ammonii Carbonatis, gr. 30; Potassii Chloratis, gr. 90; Decocti Cinchonæ Flavæ, fl. oz. 8. Mix. One-sixth part three times a day. *In debility with acid secretions.*

69. *Solution of Potash and Buchu.*

℞. Liquoris Potassæ, min. 10—15; Tincturæ Hyoscyami. min. 40; Infusi Buchu, fl. drs. 12. Make a draught, to be taken three times a day. *In catarrh and irritability of the bladder.*

70. *Soda, Morphia, and Dilute Hydrocyanic Acid.*

℞. Sodii Bicarbonatis, gr. 15; Liquoris Morphinæ Hydrochloratis, min. 15; Acidi Hydrocyanici Diluti, min. 5; Infusi Cascarillæ, fl. oz. 1. Make a draught to be taken immediately. *In gastrodynia, &c., after the stomach has been emptied by an emetic. In angina pectoris immediately after a paroxysm.*

71. *Potash and Aloes.*

℞. Potassii Bicarbonatis, oz. ½; Tincturæ Chiratæ, fl. drs. 2; Decoct

Aloes Compositi, fl. oz. 8. Mix. Take one-sixth part early every morning. *In chronic gout.*

72. *Bicarbonate of Potash.*

℞. Potassii Bicarbonatis, gr. 30; Aquæ, fl. oz. 2. Make a draught, to be taken every two hours. *In acute rheumatism. This medicine to be continued until the joints are free from pain. It generally renders the urine alkaline in twenty-four hours.*

℞. Potassii Bicarbonatis, oz. 1; Tincturæ Gentianæ Compositæ, fl. drs. 2; Aquæ, fl. oz. 12. Mix. One-twelfth part to be taken every two hours with a tablespoonful of lemon-juice, or 15 grains of citric acid. *Another way of carrying out the alkaline treatment of rheumatism. A grain of quinine may be given with each dose, dissolved in the lemon-juice or acid solution.*

73. *Potash and Lime Water.*

℞. Liquoris Potassæ, min. 15—45; Liquoris Calcis Saccharati, min. 20—60. Mix. To be taken in a cupful of beef tea, or of milk, two or three times a day. See F. 14.

IV. ANTISEPTICS.

Disinfectants or Deodorants.

The names of the various agents used for antiseptic purposes form a formidable list, of which the following are the most important:—Heat. Cold. Dry earth. Charcoal. Chlorine. Iodine. Sulphurous acid. Sulphur. Carbolic acid. Terebene and Cupralum. Condy's fluid (potassium permanganate). Chloride of aluminium (chloralum). Chloride of lime. Sulphate of copper. Chloride of zinc. Sulphate of iron. Oil of eucalyptus. Thymol. Iodoform. Chlorinated soda. Perchloride of mercury. Borax. Salicylic acid. Boro-glyceride and many other compounds, as Phenol-Iodatum, Phenol-Camphor, Sulpho-carbolates, &c. &c.

Out of this large number of disinfectants, the following may be selected for the hygiene of the sick-room:—

First and foremost is fresh air and ventilation. If an aërial disinfectant is required, terebene or iodine. For disinfecting clothing and ejecta, carbolic acid, 2 per cent., or chloralum, 3 or 4 oz. to a gallon of water. For drains, closets, &c., cupralum or chloralum, 1 lb. to the gallon of water. A sheet saturated with carbolic acid, 2 per cent., should be fixed outside the bedroom door. The skin of the patient may be dressed with camphorated oil, terebene oil, or carbolised vaseline, &c. The infected empty room should be disinfected by closing all crevices, and burning sulphur, 1 lb. for each 1000 cubic feet. After some hours the room can be opened, and furniture, floors, &c., washed with chloralum, 4 oz. to a gallon of water, or with carbolic or terebene soap. Room should be re-papered and ceiling whitewashed.

Linen, clothing, bedding, &c., should be soaked in carbolic acid, or chloralum solution, and afterwards boiled. Other woollen materials should be exposed for an hour or more to a heat of 250° Fahr.

74. LISTER'S *Antiseptic Methods and Preparations.*

The striking results obtained by LISTER'S Antiseptic treatment in surgical operations make it important that it should be generally understood.

The agents employed are Carbolic, Boracic, and Salicylic Acids, chiefly the first, and the process is based upon the supposition that particles capable of setting up septic change are everywhere present. The skin of the part to be operated upon is thoroughly washed with a 5 per cent. solution of carbolic acid, and all instruments and all sponges are kept in a similar solution. The hands of the operator and his assistants are washed in a 2½ per cent. carbolic solution, special care being taken to purify the folds of skin about the nails. Before and during the operation, a cloud of spray containing carbolic acid is sometimes directed upon the part. A 2½ per cent. solution (1 in 40) is used for this purpose, if the hand-spray instrument be employed; but with the steam-spray a 5 per cent. carbolic lotion must be used, because the steam diminishes the strength. All instruments must be taken out of the lotion in which they lie under the protection of the spray, and if laid down they must be placed on a towel previously soaked with 1 in 20 carbolic lotion, and lying in the line of the spray. If the surgeon's hands or an instrument be removed from the spray they must be purified by being dipped into 1 in 40 carbolic solution before they are again brought into contact with the wound.

If an unpurified finger or instrument have touched the wound, it must at once be washed out with 1 in 40 solution.

Carbolized catgut ligatures and sutures are to be employed, and free escape of discharge is to be provided for by drainage-tubes of red india-rubber, which have been kept in 1 in 20 carbolic solution, and are removed from this solution directly into the spray.

A piece of rag soaked in carbolic lotion should be constantly at hand, which is to be thrown over the wound in case of any failure of the spray.

For dressings carbolized gauze is used, prepared by saturating gauze with a mixture of carbolic acid, paraffin, and resin in a closed hot-box or chamber. Over the wound is placed "protective" thin oiled silk, previously dipped in 1 in 40 carbolic solution. The object of the protective is to avoid the irritating contact of the carbolic acid of the dressings. Over the protective is applied a piece of wet carbolic gauze, consisting of several layers of loose gauze, which has been soaking for some time in the 1 in 40 solution. The wet gauze must overlap the protective in all directions. Any remaining hollow is filled with loose gauze, and outside the whole a gauze dressing is fixed, consisting of a piece of carbolic gauze, of suitable size, folded in eight layers, and having beneath the outermost layer a piece of mackintosh, with the india-rubber side inwards. The object of this is to prevent the discharges from soaking straight through, and to compel them to travel in the gauze to the margin of the dressing. The whole is to be carefully secured by a gauze bandage, and when this is accomplished, the spray may be stopped. Then around the edge of the dressing an elastic bandage is applied, so as to keep the edge constantly in contact with the body, and to allow no interval to occur between the dressing and the skin during the movements of the patient. The elastic is carefully fixed to the edge of the dressing by safety pins; care must be taken that there are no pin-holes in the mackintosh except around the edges.

The precautions during the operation protect the wound from septic particles in the air or on the instruments. Then the dressing being applied, the heat of the body volatilizes the carbolic acid contained in the gauze, which forms an antiseptic atmosphere between it and the skin, and prevents putrefaction of the discharges.

A joint is freely laid open and explored with the finger, or a large psoas abscess is incised and drained by tubes without any fear of fever being set up. When an abscess has been opened the discharge in a few days becomes serous in character and scanty in amount, but the greatest care is required in these cases.

The subsequent dressings should be performed under the spray, and with precautions somewhat similar to those adopted during the operation itself.

When a wound, or a compound fracture, has been exposed to air or to other septic contamination, the wound must be carefully washed out with 1 in 20 carbolic lotion, injected into all its recesses by a syringe with a catheter attached to it. If dirt be ground into the tissue it must be cleaned away by a nail brush. This cleansing must be effected under the spray, and an antiseptic dressing applied as above directed.

75. *Chlorine Gas.*

As a fumigating agent, antiseptic, and disinfectant chlorine stands high. The ingredients for producing it should be contained in saucers placed in the higher parts of the room, as the gas which is developed will descend by its density, and soon become mixed with the surrounding air. DR. FARADAY adopted the following method at the Millbank Penitentiary:—One part of common salt was intimately mixed with one part of the black or binoxide of manganese, and placed in a shallow earthen pan; two parts of oil of vitriol, previously diluted with two parts by measure of water, were then poured over it, and the whole stirred with a stick. Chlorine continued to be liberated from this mixture for four days.

Another plan for causing the free evolution of chlorine gas is the addition of half a pint of hydrochloric acid, mixed with a quarter of a pint of water, to a quarter of a pound of finely powdered black oxide of manganese. Or the gas may be generated by dropping a few grains of chlorate of potash, every now and then, into a glass containing some strong hydrochloric acid. Whichever mode is adopted for producing this disinfectant, it is necessary while employing it that the doors, windows, and chimney of the room be kept carefully closed for some hours.

The chlorides of Lime and Soda, when exposed to the air, gradually absorb carbonic acid and give off chloride. Hence either of these salts can be used as disinfecting agents. Cloths, dipped in an aqueous solution of chloride of lime, may be hung up in an inhabited room to fumigate it; the quantity of chlorine given off being too small to be mischievous.

76. *Solution of Chlorinated Soda.*

℞. Liquoris Sodii Chlorinatæ, min. 80—120; Extracti Opii Liquidi, min. 30; Aquæ Camphoræ, fl. oz. 8. Mix. Two tablespoonfuls three times a day. *In gangrene of the lung, low fever, &c. It not only relieves the fetor, but acts as an alterative, &c. If necessary, the opium can be omitted.*

77. *Chlorine for Internal Administration.*

The dose of the officinal LIQUOR CHLORI is from min. 10 to 20 in a wineglassful of water, several times daily. *Useful especially as a gargle in scarlet fever, diphtheria, &c.*

78. *Permanganate of Potash.*

The permanganate of potash is an excellent disinfectant, and is the basis of CONDY'S Antiseptic Fluid. The latter is double the strength of the officinal LIQUOR POTASSÆ PERMANGANATIS.

From 1—6 fl. drs. of the solution of permanganate of potash in one pint of water may be applied to all kinds of suppurating sores. Such a lotion may be employed with great benefit to destroy the horribly offensive odour of a malignant ulcer; or for the same purpose in suppurating scalds and burns. The solution should be made only of such strength as to be borne without any pain or even uneasiness. It must be frequently syringed over the sores, since contact with lint and sponges decomposes it. Linen is stained by it. As a wash for stinking feet, or for the removal of offensive odour from the hands after handling morbid specimens, &c., the liquor ought to be used in the proportion of one fluid drachm to the ounce of distilled water. As an injection in cancer of the uterus, the strength ought not to be greater than half a fluid ounce to one pint of water. To deprive night-chairs of offensive odour, a wineglassful of CONDY'S Fluid should be mixed with two pints of fresh or salt water, and put into the pan previous to its use.

79. *Chloride of Zinc.*

This substance is a most powerful caustic, which has long been used to destroy cancerous and other growths. It has been administered internally—dose, gr. 1, largely diluted—but without any benefit. It forms, however, a valuable disinfectant gargle—gr. 10 to water fl. oz. 8; or in still larger proportions it is a most efficacious antiseptic. SIR W. BURNETT'S Disinfecting Fluid consists of gr. 25 of this salt to water fl. dr. 1. For use, about one ounce of this solution is added to two pints of water. To disinfect a sick-room, a piece of flannel three or four feet square is to be moistened with a solution thus made, and frequently waved through the air, or it may be diffused in the form of spray. Some of it should also be placed in the close-stools and bedpans.

80. *Chlorinated Lime Lozenges.*

℞. Calcis Cloratæ, gr. 60; Sacchari Albi, oz. 4; Amyli, oz. 1; Olei Menthæ Piperitæ, fl. dr. 1; Pulveris Tragacanthæ Compositi, gr. 120; Aquæ Menthæ Piperitæ, sufficient to form a mass. To be divided into lozenges of twenty grains each. *One may be taken frequently to remove fetor of the breath, whether due to mercury or other causes. The officinal* TROCHISCI POTASSÆ CHLORATIS *can also be used for the same purpose.*

81. *Iodine.*

This agent has been recommended for disinfecting and deodorizing purposes. Two hundred grains are placed in a common chip box and suspended over the patient's bed, or they may be put into a cup or saucer on the mantelshelf. If desired, the metal may be at once volatilized and the vapour diffused through the apartment, by placing it on a heated saucer. In rooms occupied by small-pox patients the air may be kept free from smell by using iodine in this manner,—probably the strongest proof which could be adduced of the value of this simple and manageable remedy.

℞. Tincturæ Iodi, fl. drs. 6; Acidi Carbolici, gr. 10; Aquam Destillatæ, ad fl. oz. 8. Mix. *Useful as a lotion to unhealthy ulcerations with offensive discharges.*

81*a*. *Iodoform.*

℞. Iodoformi, gr. 60; Olei Eucalypti, fl. dr. 1; Vaseline, oz. 1. *An antiseptic application of great value. May be applied on common tampon in the vagina in cases of cancer of the uterus. No tent should be passed into the uterus without first smearing with this grease, and any tampon placed in the vagina to keep a tent in place should be smeared with it.*

82. *Extract of Logwood.*

℞. Extracti Hæmatoxyli, oz. 1; Olei Theobromæ, Adipis Benzoati, āā oz. ½. Mix. *This is an excellent disinfectant when applied to malignant sores or suppurating wounds. The remedy is equally efficacious when used as a lotion or powder. If any hæmostatic be needed, the logwood may be combined with tannin or perchloride of iron.*

83. *Sulphurous Acid and Quinine.*

℞. Acidi Sulphurosi, fl. drs. 6; Tincturæ Aurantii, fl. oz. 1; Tincturæ Chloroformi Compositæ, min. 90; Quiniæ Sulphatis, gr. 12—18; Aquam, ad fl. oz. 6. Mix, and label,—"One-sixth part, with two tablespoonfuls of water, every six or eight hours." *In pyæmia, erysipelas, glanders, typhus, dissecting wounds, &c.*

83*a*. *Sulphocarbolate of Soda.*

℞. Sodii Sulphocarbolatis, drs. 2; Extracti Cinchonæ Liquidi, fl. dr. 1; Aquam, ad fl. oz. 6. Mix. Two tablespoonfuls three times daily, a quarter of an hour before food. *In fermentative dyspepsia, flatulence, sarcinæ, &c. The sulpho-carbolate is said also to have been useful in scarlet fever.*

84. *Lavender and Camphor.*

℞. Spiritûs Camphoræ, min. 10; Spiritûs Lavandulæ, fl. dr. 1; Mucilaginis Tragacanthæ, fl. drs. 7. Make a draught. *To be taken every six or eight hours by a nervous attendant in a sick-room.*

V. ANTISPASMODICS.

85. *Ether Mixtures.*

℞. Spiritûs Ætheris, min. 40—fl. drm. 1; Extracti Opii Liquidi, min. 10—15; Aquam Menthæ Piperitæ, ad fl. drs. 12. Make a draught. *To be taken occasionally (especially at bedtime) when there are paroxysms of pain from structural disease.*

℞. Spiritûs Ætheris, Spiritûs Chloroformi, āā fl. drs. 3; Tincturæ Cardamomi Compositæ, fl. drs. 6; Spiritûs Myristicæ, fl. drs. 2; Olei Carui, min. 12; Mucilaginis Tragacanthæ, fl. oz. 3; Aquam Menthæ Piperitæ, ad fl. oz. 8. Mix. Two or three tablespoonfuls occasionally, when there is great oppression from flatulence.

℞. Spiritûs Ætheris, min. 90; Spiritûs Ammoniæ Aromatici, fl. drs. 2; Tincturæ Belladonnæ, min. 30; Tincturæ Chloroformi Compositæ, min. 40; Aquam Camphoræ, ad fl. oz. 4. Mix. Label,—"Two tablespoonfuls every half-hour until the pain is relieved." *In spasmodic diseases, angina pectoris, &c.*

85*a*. *Nitrite of Amyl.*

Nitrite of amyl causes great but transitory relaxation of the arterioles, especially of those of the head and face. Cautiously inhaled, it is often of the greatest service in relieving angina pectoris. Thin glass capsules, each containing a few drops of the nitrite, may be obtained, one of which may be crushed in a handkerchief for each inhalation. Nitrite of amyl is useful in cardiac distress, in chloroform-apnœa, and occasionally in asthma. A freshly prepared specimen of the drug should always be used.

℞. Amyl Nitritis, min. 2; Spiritûs Rectificati, fl. dr. 1. From three to eight drops to be taken on sugar every three hours. *Recommended by* DR. RINGER *for the "flushings" of the climacteric period.*

85*b*. *Nitro-Glycerine.*

Nitro-glycerine causes great relaxation of the arterioles. Its action is somewhat slower than that of nitrite of amyl, but it is more permanent. It may be obtained in the form of a 1 *per cent. alcoholic solution. Of this the dose is one drop (or for a delicate woman half a drop) every two or three hours, or as often as necessary. Tablets made of chocolate paste, and containing each gr.* $\frac{1}{100}$ *may also be obtained. Nitro-glycerine is most useful in relieving and in averting angina pectoris. It is also highly recommended for many symptoms associated with increased arterial tension and chronic renal disease, for asthma, acute nephritis, and for migraine and neuralgia. Occasionally it produces so much headache that its use has to be discontinued.*

86. *Ammonia Mixtures.*

℞. Spiritûs Ammoniæ Aromatici. fl. dr. 1.; Acidi Hydrocyanici Diluti, min. 3—5; Syrupi Zingiberis, fl. dr. 1; Aquæ Carui, fl. drs. 10. Make a draught, to be taken twice or thrice a day if there be flatulence or languor. *In dyspepsia, or debility with irritable stomach.* See F. 61, 68.

℞. Spiritûs Ammoniæ Aromatici, min. 30; Magnesii Carbonatis, gr. 20; Spiritûs Chloroformi, fl. drm. 1; Aquam Menthæ Piperitæ, ad fl. drs. 12; Make a draught. To be taken occasionally.

℞. Spiritûs Ammoniæ Aromatici, min. 75; Spiritûs Ætheris, fl. dr. 1; Tincturæ Belladonnæ, min. 24; Acidi Hydrocyanici Diluti, min. 8; Syrupum, ad fl. oz. 2. Mix. One teaspoonful in the same quantity of water every four hours. *For a child two years old with whooping cough.*

87. *Valerian Draught.*

℞. Tincturæ Valerianæ Ammoniatæ, min. 40; Infusi Valerianæ, fl. oz. 1. Make a draught. To be taken occasionally. *In hysteria.*

88. *Lobelia, Ether, &c.*

℞. Tincturæ Lobeliæ Ætheræ, fl. drs. 3; Vini Ipecacuanhæ, fl. drs. 3; Misturam Ammoniaci, ad fl. oz. 6. Mix. Two tablespoonfuls every six hours. *In the dyspnœa of asthma, when there is vesicular emphysema.*

88*a*. *Grindelia.*

The liquid extract of Grindelia robusta, prepared by MR. MARTINDALE, *of New Cavendish Street, is recommended by* DR. RINGER *for the treatment of the paroxysms of asthma. Twenty to thirty minims should be given every hour or half-hour.*

89. *Assafœtida and Chiretta.*

℞. Tincturæ Assafœtidæ, fl. drs. 2; Spiritûs Ammoniæ Aromatici, fl. drs. 3; Tincturæ Chiratæ, fl. drs. 7. Mix. Direct,—"Sixty drops in a wineglassful of water every two or three hours, until the paroxysms cease." *In hysteria.*

90. *Creasote.*

℞. Misturæ Creasoti, fl. oz. 8. Mix. One-sixth part three times a day. *In some cases of obstinate sickness, such as occurs during pregnancy and in hysteria.* See F. 41.

91. *Lobelia Mixture.*

℞. Tincturæ Lobeliæ, fl. dr. 4; Tincturæ Cardamomi Compositæ, fl. drs. 3; Syrupi, fl. oz. 3½; Aquam, ad fl. oz. 6. Mix. One or two small teaspoonfuls every two hours. *In whooping cough.*

92. *Sulphate of Zinc and Belladonna.*

℞. Zinci Sulphatis, gr. 8; Extracti Belladonnæ, gr. 2; Aquæ, fl. oz. 4. Mix. Half an ounce four times a day.—DR. FULLER. *For a child above three years of age with whooping cough. Every other day the strength of the mixture may be augmented in the proportion of one dose. The belladonna, it is said, can be thus gradually increased to doses of five grains without any mischief.* See F. 326.

93. *Valerianate of Quinia.*

℞. Quiniæ Valerianatis, gr. 12—20; Extracti Gentianæ, gr. 40. Divide into twelve pills, silver them, and order one to be taken three times a day. *In hysteria, and analogous nervous disorders.*

94. *Stramonium, Colchicum, and Digitalis.*

℞. Potassii Citratis, gr. 120; Tincturæ Stramonii, fl. dr. 1; Tincturæ Colchici Seminis, fl. drs. 2; Infusi Digitalis, fl. oz. 2; Aquam Menthæ Piperitæ, ad fl. oz. 8. Mix. One-sixth part three times a day. *In irregular gout, with dyspnœa or violent palpitation.*

95. *Sumbul and Ether.*

℞. Sumbuli Radicis, gr. 240; Spiritûs Ætheris, fl. oz. 4. Macerate in a stoppered bottle for seven days, and then filter. Dose, min. 20—30. *In neuralgia, hysterical fits, &c.*

VI. ASTRINGENTS.

96. *Rhatany Mixtures.*

℞. Tincturæ Rhei, fl. drs. 3; Infusi Krameriæ, fl. oz. 8. Make a mixture, and order one-sixth part to be taken every six or eight hours. *A valuable astringent in common diarrhœa.*

℞. Extracti Krameriæ, gr. 20; Aquæ, fl. drs. 12. Make a draught. To be taken three times a day. *In hæmaturia, passive intestinal hæmorrhage, &c.*

℞. Potassii Chloratis, gr. 60; Tincturæ Krameriæ, fl. drs. 6; Aquam, ad fl. oz. 8. Mix. One-sixth part three times a day. *In relaxation of the buccal mucous membrane, elongation of the uvula, sponginess of the gums, &c.*

97. *Catechu Mixtures.*

℞. Tincturæ Catechu, fl. drs. 3—6; Pulveris Cretæ Aromatici, gr. 90; Olei Menthæ Piperitæ, min. 6; Extracti Opii Liquidi, min. 30; Misturam Cretæ, ad fl. oz. 8. Mix. One-sixth part after every relaxed motion. *Efficacious in checking simple diarrhœa. In some instances half an ounce of castor oil should be given four hours before commencing this mixture.*

℞. Tincturæ Catechu, fl. dr. 1; Acidi Sulphurici Aromatici, min. 15; Olei Menthæ Piperitæ, min. 1; Infusi Catechu, fl. oz. 1. Mix. To be taken two or three times a day.

℞. Tincturæ Catechu, fl. drs. 3; Spiritûs Chloroformi, fl. drs. 6; Extracti Belæ Liquidi, fl. drs. 12; Infusum Maticæ, ad fl. oz. 6. Mix. Two tablespoonfuls to be taken three or four times a day. *In chronic diarrhœa and dysentery.*

℞. Extracti Belæ Liquidi, fl. drs. 1—2; Syrupi Gummi Rubri, fl. dr. 1; Aquæ, fl. oz. 1. Mix. To be taken three or four times a day. *In chronic dysentery.*

℞. Pulveris Catechu Compositi, gr. 30; Pulveris Cretæ Aromatici cum Opio, gr. 20. Mix a powder. To be taken night and morning.

97*a*. *Matico.*

℞. Infusi Maticæ, fl. oz. 1 or 2. Every four hours. *In hæmorrhage from the kidneys or bladder.*

98. *Vegetable Charcoal.*

℞. Carbonis Ligni, Theriacæ, āā oz. 1. Mix. Direct one teaspoonful to be taken three or four times a day. *In some cases of chronic diarrhœa, when the irritation is kept up by fæcal fermentation. In fœtid eructations. The charcoal should be recently prepared.* Charcoal biscuits are also useful.

99. *Tannin and Nitric Acid.*

℞. Acidi Tannici, gr. 30; Acidi Nitrici Diluti, fl. dr. 1; Tincturæ Lupuli, fl. drs. 4; Infusum Gentianæ, ad fl. oz. 8. Mix. Direct,—"One-sixth part three times a day." *To restrain secretion in chronic bronchial catarrh; in phthisis when the cavities are large and the walls throw out considerable quantities of purulent matter; in nervous debility, and in most cases where an astringent is required. When a ferruginous tonic is indicated, the above mixture may be given night and morning, and some preparation of steel in the middle of the day.*

100. *Aromatic Sulphuric Acid and Opium.*

℞. Acidi Sulphurici Aromatici, fl. drs. 2; Tincturæ Camphoræ Compositæ, fl. oz. 1; Aquam Cinnamomi, ad fl. oz. 8. Mix. Label,—"One tablespoonful with the same quantity of water three times a day, about an hour before each meal."

101. *Perchloride of Iron.*

℞. Tincturæ Ferri Perchloridi, min. 15; Acidi Hydrochlorici Diluti, mi. 10; Aquæ Aurantii Floris, fl. drs. 12. Make a draught. To be taken every six hours. *In some cases of epistaxis, hæmorrhage from the stomach, &c.*

102. *Oil of Turpentine.*

℞. Olei Terebinthinæ, min. 10—20; Misturæ Amygdalæ, fl. oz. 1. Make a draught. To be taken every hour. *In severe hæmoptysis, especially where the individual is weak and cachectic.*

℞. Olei Terebinthinæ, min. 10; Tinct. Opii, min. 10; Mucilaginis Acaciæ, fl. drs. 4; Aquam, ad fl. oz. 1. Make a draught. To be taken every two or three hours. *In hæmorrhage from the bowel in enteric fever.*

℞. Mucilaginis Acaciæ, fl. drs. 4; Sodii Bicarbonatis, gr. 10; Olei Terebinthinæ, min. 10; Olei Anethi, min. 1; Aquæ Destillatæ, fl. oz. 1. Make a draught. To be taken thrice daily. *In passive hæmatemesis.* See F. 50.

103. *Gallic Acid.*

℞. Acidi Gallici, gr. 10—15; Aquæ Destillatæ, fl. drs. 12. Make a draught. To be taken every four hours.

℞. Acidi Gallici, gr. 4; Extracti Cannabis Indicæ, gr. ½; Confec- ionis Rosæ Gallicæ, gr. 1. Make a pill. To be taken every night at bedtime. *To check the night-sweats in phthisis, or in uterine hæmor- nage, three times a day.*

℞. Acidi Gallici, gr. 8; Morphiæ Hydrochloratis, gr. ¼; Confec- onis Rosæ Gallicæ, sufficient to make two pills. Label,—"To be taken every night at bedtime." *To relieve the cough and night-sweats of phthisis.*

℞. Glycerini Acidi Gallici, fl. drs. 6—10; Acidi Sulphurici Diluti, fl. rs. 2; Extracti Ergotæ Liquidi, fl. drs. 3; Aquam Cinnamomi, ad fl. z. 8. Mix, and label,—"One-eighth part every four or six hours." *In terine hæmorrhage, whether due to cancer, polypus, simple ulceration, a flabby condition of the walls.*

℞. Acidi Gallici, gr. 15—25; Acidi Sulphurici Aromatici, min. 5—20; Tincturæ Cinnamomi, fl. drs. 2; Aquam Destillatæ, ad. fl. oz. Make a draught. To be taken every four hours until the bleeding ceases. *In profuse menorrhagia, hæmoptysis, hæmatemesis, &c.*

℞. Acidi Gallici, gr. 12; Pulveris Ipecacuanhæ Compositi, gr. 5. ake a powder. To be taken every eight or twelve hours. *A valuable tringent in hæmorrhage from the lungs, stomach, intestines, or kidneys.*

104. *Cinnamon Mixtures.*

℞. Tincturæ Cinnamomi, fl. drs. 6; Acidi Nitrici Diluti, fl. drs. 2. Mix and label,—"Thirty drops in a wineglassful of water every two hours." *seful in passive hæmorrhages from the kidneys, bladder, uterus, &c.*

℞. Tincturæ Cinnamomi, fl. drs. 2; Spiritûs Ammoniæ Aromatici, drs. 2; Decoctum Hæmatoxyli, ad fl. oz. 6. Mix. One-fourth part er every relaxed motion.

℞. Tincturæ Cinnamomi, fl. drs. 2; Aquæ Cinnamomi, fl. oz. 1. Make draught. To be taken thrice daily. *In menorrhagia especially, but o in other varieties of passive hæmorrhage.*

105. *Hamamelis Virginica.*

℞. Tincturæ Hamamelis, fl. dr. 1; Aquæ Destillatæ, fl. oz. 6. Mix. ne teaspoonful or two teaspoonfuls every two or three hours. Large

doses may produce severe throbbing pain in the head. *Useful in ep*
taxis, hæmoptysis, hæmatemesis, hæmaturia, bleeding piles, and uteri
hæmorrhage. For piles, a lotion of Hamamelis is also useful. See F. 275

106. *Sulphate of Copper and Opium.*

℞. Cupri Sulphatis, Extracti Opii, āā gr. $\frac{1}{4}$; Extracti Gentianæ, q.
Make a pill. To be taken three or four times a day. *In obstina*
diarrhœa.

107. *Nitrate of Silver and Opium.*

℞. Argenti Nitratis, gr. $\frac{1}{2}$; Extracti Opii, gr. 2. Make a pill. T
be taken night and morning. *In very obstinate diarrhœa where opiu*
agrees with the system. See F. 59.

108. *Kino and Logwood.*

℞. Tincturæ Kino, fl. drs. 6; Vini Ipecacuanhæ, fl. drs. 2; Decoc
Hæmatoxyli, fl. oz. 7. Mix. One-sixth part three times a day.
chronic dysentery, diarrhœa, abundant secretion of mucus from linin
membrane of colon and rectum, &c.

109. *Cascarilla and Squills.*

℞. Tincturæ Scillæ, fl. drs. 1½—2; Acidi Sulphurici Aromatici,
dr. 1; Tinct. Belladonnæ, min. 60; Infusum Cascarillæ, ad fl. oz.
Mix. One-sixth part three times a day. *In chronic bronchitis wi*
profuse expectoration.

110. *Alum and Syrup of Red Poppy.*

℞. Aluminis, gr. 30; Syrupi Rhœados, fl. drs. 3; Aquam, ad fl. oz.
Mix. One teaspoonful every two or three hours. *In the catarrh*
infants, where the secretion from the bronchial tubes is excessive.

111. *Oxide of Zinc.*

℞. Zinci Oxidi, gr. 12; Extracti Belladonnæ, gr. 1½. Make a mas
divide into six pills, and order one to be taken every night at bedtim
For the relief of night sweats in phthisis and other exhausting diseases.

℞. Zinci Oxidi, gr. 2; Morphinæ Hydrochloratis, gr. $\frac{1}{6}$; Extrac
Anthemidis, gr. 3. Make a pill, to be taken night and morning.

111*a*. *Atropine and Belladonna.*

℞. Liq. Atropiæ Sulphatis (B.P.), min. 16; Aquæ Destillatæ, fl. o
8. One tablespoonful accurately measured in a medicine glass to b
taken at bedtime. The dose may be increased to 6 or 8 drachms
necessary. *Useful for the sweating of phthisis.*

Subcutaneous injection of $\frac{1}{100}$ grain of Sulphate of Atropine; or th
use of Belladonna in a single dose of 20—30 drops of the Tincture c
the external use of the Liniment of Belladonna may be substituted.

112. *Preparations of Bismuth.*

℞. Bismuthi Carbonatis, gr. 60; Syrupi Papaveris, fl. drs. 4; Muc
laginis Tragacanthæ, fl. oz. 4; Aquam, ad fl. oz. 8. Mix. One-sixt
part every six or eight hours. *Useful in checking the diarrhœa*
phthisis, typhoid fever, &c.

℞. Bismuthi Carbonatis, gr. 80; Pulveris Kini Compositi, gr. 30
Tincturæ Cinnamomi, fl. drs. 3; Mucilaginis Tragacanthæ, fl. oz. 4
Aquam, ad fl. oz. 6. Mix. One-sixth part every four hours.

℞. Bismuthi Subnitratis, gr. 100. Divide into six powders, and order one to be taken every night at bedtime in a teacupful of milk-arrowroot with one tablespoonful of brandy. *In cases where the use of bismuth is indicated with a stimulant.* See F. 65.

113. *Astringent Enemata.*

℞. Olei Terebinthinæ, min. 30; Tincturæ Kino, fl. drs. 2; Extracti Opii Liquidi, min. 10—25; Mucilaginis Amyli, fl. oz. 2. Make an enema. *To check the purging in typhoid fever, if opium and starch enema fails.*

℞. Bismuthi Subnitratis. gr. 20; Tincturæ Catechu, fl. dr. 1; Liquoris Morphinæ Hydrochloratis, min. 30; Mucilaginis Amyli, fl. oz. 2. Mix for an enema. *To check the purging of phthisis, fever, &c. It may be administered every twelve hours.*

114. *Chloroform, Opium, and Castor Oil.*

℞. Chloroformi, min. 6—12; Tincturæ Camphoræ Compositæ, fl. drs. 2; Olei Ricini, fl. drs. 3; Mucilaginis Tragacanthæ, fl. drs. 3. Make a draught, to be taken immediately. *In choleraic diarrhœa.*

115. *Alum and Sulphuric Acid.*

R. Aluminis, gr. 100; Syrupi Rhœados, fl. drs. 6; Infusum Rosæ Acidum, ad fl. oz. 8. Mix. Two tablespoonfuls every six hours. *In passive hæmorrhage. Also in some cases of lead colic.*

116. *Ammonio-Ferric Alum, &c.*

℞. Ferri Ammonio-Sulphatis, gr. 30—60; Aquæ Destillatæ, fl. oz. 8. Mix. One-sixth part every six or eight hours. *An excellent astringent in some forms of hæmatemesis, hæmoptysis, &c.*

℞. Aluminis, gr. 90; Ferri Sulphatis, gr. 20; Quiniæ Sulphatis, gr. 4; Acidi Sulphurici Diluti, fl. dr. 1; Syrupi Limonis, fl. oz. 1; Aquam Destillatam, ad fl. oz. 8. Mix, and label,—"One-eighth part to be taken three times a day, after food, in a wineglassful of water."

117. *Lead and Acetic Acid.*

R. Plumbi Acetatis, gr. 5—10; Extracti Opii, gr. $\frac{1}{4}$—$\frac{1}{2}$; Confectionis Rosæ Gallicæ, sufficient to make two pills. To be taken every two or three hours, with the following draught:—℞. Acidi Acetici Diluti, fl. drs. 2; Aquæ Cinnamomi, fl. drs. 6. Mix. *In severe hæmoptysis.—The acetate of lead is inferior to gallic acid as an astringent, unless given in larger doses than are commonly employed. According to* DR. TANNER'S *experience, this lead salt may be prescribed in* 5, 10, *or even* 20 *gr. doses, with great advantage, in cases of uterine hæmorrhage requiring prompt suppression. Doses of ten grains, repeated every four hours for forty-eight or sixty hours, have given rise to attacks of colic.*

118. *Cold as a Local Astringent.*

The best and cheapest freezing mixture is made with ice and common salt in equal parts. Any of the following, however, will prove useful:—

MIXTURES.	PARTS.	THERM. SINKS.
Chloride of Ammonium . .	5	From 50° to 10° Fahr.
Nitrate of Potassium . . .	5	
Water	10	
Nitrate of Ammonium . . .	1	From 50° to 4° Fahr.
Water	1	
Snow	2	From 32° to – 4° Fahr.
Common Salt	1	
Snow or Ice	12	From 18° to – 25° Fahr.
Common Salt	5	
Nitrate of Ammonium . . .	5	

VII. BATHS.

119. *Temperature of Simple Baths.*

BATH.	WATER.	VAPOUR.	AIR.
The Cold . .	33° to 65° Fahr.		
,, Cool . .	65° to 75°		
,, Temperate	75° to 85°		
,, Tepid . .	85° to 92° . . .	90° to 100° . . .	96° to 106°
,, Warm . .	92° to 98° . . .	300° to 115° . . .	106° to 120°
,, Hot . . .	98° to 112° . . .	115° to 140° . . .	120° to 180°

120. *Nitro-Hydrochloric Acid Baths.*

℞. Acidi Nitrici, fl. drs. 12; Acidi Hydrochlorici, fl. oz. 1—3; Aqua Calidæ, C. 30. Mix. To be prepared in a wooden bath. The patien should remain in it from ten to twenty minutes. *Useful in cases wher the liver is inactive,—as in invalids from tropical climates.*

℞. Acidi Nitrici, fl. drs. 4; Acidi Hydrochlorici, fl. oz. 1; Aqua Calidæ, C. 4. Mix. For a footbath. *In dyspepsia, with derangement o the liver and constipation. To be used in a wooden or earthenware vesse*

121. *Alkaline Bath.*

℞. Sodii Carbonatis, lb. 1; Aquæ Ferventis, C. 30. Mix. *In th uric acid diathesis, chronic squamous diseases of the skin, chroni rheumatism, &c.*

122. *Conium and Starch Bath.*

℞. Extracti Conii, oz. 1; Pulveris Amyli, lb. 1; Aquæ Ferventis C. 30. Mix, for a bath. *In certain skin diseases attended with abundan scurf and itching.* A simple starch bath, without any conium, is ver soothing to the skin when covered with an irritating rash.

123. *Creasote Bath.*

℞. Creasoti, fl. drs. 3; Glycerini, fl. oz. 4; Aquæ Ferventis, C. 30. Mix. *In squamous disease of the skin.*

124. *Iodine Bath.*

℞. Iodi, gr. 60; Potassii Iodidi, oz. ½; Liquoris Potassæ, fl. oz. 2; Aquæ Calidæ, C. 30. Mix. *In scrofula, chronic rheumatism, secondar syphilis, and certain skin diseases.*

125. *Sulphur Baths.*

℞. Potassæ Sulphuratæ, oz. 4; Aquæ Calidæ, C. 30. Mix. *Usefu in scabies, lead colic, paralysis from lead, &c.*

℞. Potassæ Sulphuratæ, oz. 4; Sodii Hyposulphis, oz. 1; Acidi Sulphurici, fl. dr. 1; Aquæ Calidæ, C. 30. Mix.

126. *Iron, or Oak Bark, Baths.*

℞. Ferri Sulphatis, oz. ½; Aquæ, C. 4. Mix. *Especially useful for strumous and rickety children.*

℞. Quercûs Contusæ, lb. 1; Aquæ Calidæ, O. 2. Mix. Boil for half an hour, and add the strained decoction to three gallons of warm or tepid water. To be used every morning. *For delicate children, &c.*

127. *Salt-water Baths.*

℞. Salis Marini (vulgo, "Bay salt"), lb. ½; Aquæ Tepidæ, C. 4. Mix. Make a sponge bath to be used every morning. *In general debility, chronic rheumatism, &c. The surface of the body should be thoroughly rubbed with a flesh brush and coarse towels.*

128. *Arsenical Baths.*

℞. Sodii Carbonatis, oz. 4; Sodii Arseniatis, gr. 20—36; Aquæ Calidæ, C. 30. Mix. *In rheumatoid arthritis, skin diseases, &c.*

℞. Sodii Chloridi, oz. 1; Sodii Sulphatis, oz. 1; Sodii Carbonatis, oz. 2; Sodii Arseniatis, gr. 52; Aquæ Calidæ, C. 30. Mix.

℞. Potassæ Sulphuratæ, oz. 4; Sodii Arseniatis, gr. 30—40; Aquæ Calidæ, C. 30. Mix.

129. *Borax Bath.*

℞. Boracis, oz. 4; Glycerini, fl. oz. 3; Aquæ Calidæ, C. 30. Mix. *In somes squamous and other irritable diseases of the skin.*

130. *The Turkish Bath.*

The general effect of a hot-air bath is to increase the force and rapidity of the circulation, and to induce free perspiration; but if too hot or too prolonged the determination of blood to the skin and lungs becomes so great, that the brain suffers. There is then consequently a lowering of the circulation, with depressed nervous power. A temperature varying from 110° to 165° will usually suffice; while if the perspiration is efficient and continuous, and the sensation agreeable, the patient may remain in the calidarium for from forty to sixty minutes.

The bath is always to be taken before a meal—when the stomach is empty.—A Turkish bath is *useful* in removing local congestions, in clearing the pores, and in inducing a healthy condition of the skin and mucous membranes, in eliminating noxious matters from the blood, and in imparting a sense of elasticity and vigour to the system. Hence it may be recommended in dropsy due to renal or hepatic disease, in gout and rheumatism, in many cutaneous affections, in albuminuria, in certain forms of neuralgia, in some cases of obesity, and so on. It is *injurious*, when there is any obstruction to the circulation, or when the heart or vessels are affected with fatty degeneration, or when there are any symptons of disease of the nervous centres, or when there is a tendency to vertigo or syncope, as well as in advanced life. Women who are pregnant, or who are menstruating, ought not to have recourse to it.

131. *Mercurial Vapour Bath.*

The patient is seated on a chair, and covered with an oil-cloth lined with flannel, which is supported by proper framework. Under the chair are placed a copper bath containing water, and a metallic plate o which is put from sixty to one hundred and eighty grains of the bisulphuret of mercury, or the same quantity of the grey oxide, or of the re oxide of this metal. In syphilitic affections of the skin, testes, an bones, from five to thirty grains of the green iodide of mercury may b employed; or a mixture of twenty grains of the green iodide wit ninety grains of the bisulphuret often proves efficacious. Under th bath and plate spirit-lamps are lighted. The patient is thus expose to the influence of three agents—heated air, steam, and the vapour o mercury. At the end of five to ten minutes perspiration commences which becomes excessive in ten or fifteen minutes longer. The lamp are now to be extinguished, and when the patient has become moderatel cool he is to be rubbed dry. He should then drink a cup of warm decoction of guaiacum or sarsaparilla, and repose for a short time.— LANGSTON PARKER. *In constitutional syphilis when mercury i indicated. This method of introducing mercury into the system ma also be adopted with benefit in other diseases in place of administerin the metal by the mouth.*

MR. HENRY LEE'S mode of proceeding is more simple, and is the one which the Author has frequently adopted with great success. A convenient apparatus is used, made by most instrument-makers, consisting of a kind of tin case containing a spirit-lamp. In the centre over the flame, is a small tin plate, upon which from fifteen to thirty grains of calomel are placed; while around this is a sort of saucer filled with boiling water. The lamp having been lighted, the apparatus is placed under a common cane-bottom chair, upon which the patient sits. He is then enveloped, chair and all, in one or more large blankets and so he remains well covered up, for about twenty minutes, when the water and mercury will be found to have disappeared. About five minutes afterwards he may put on his shirt and go to bed; but it is better not to use a towel, since it can only be disadvantageous to wipe off the calomel deposited on the skin.

132. *Gelatine or Bran Bath.*

Take of Gelatine, or Carrageen Moss, lb. 1; dissolve in a little boiling water, and then add twenty gallons of hot water to form a bath. This bath can be made more efficacious by soaking in it one or two pounds of bran confined in a muslin bag, or the bran may be used alone. *In eczema, and other irritable cutaneous affections.*

133. *Mustard Footbath.*

℞. Pulveris Sinapis, oz. 2—4; Aquæ Calidæ, C. 4. Mix, for a footbath. *In congestions of the head and chest, headache, languid circulation, as well as in some cases of amenorrhœa, &c.*

134. *Cold Affusion.*

The patient is seated in an empty bath, and from four to six buckets of cold water (about 40° Fahr.) are poured over his head and chest from a height of two or more feet. He is then quickly dried, and replaced in bed. The colder the water, and the greater the height from which it is poured, the more stimulating the effect. Affusion has proved very valuable in the treatment of typhus. It may be resorted to when the temperature of the body is permanently above its normal standard, when there is no feeling of chilliness, when the body is not wholly bathed in sweat, when there is not much irritability of the nervous system, and when there is great stupor. The effect is to lower the temperature, to lessen the frequency of the pulse and respiration, to render the tongue moist and soft, to diminish or remove the stupor, to procure sleep, and sometimes to produce a critical perspiration. Cold affusion can seldom be resorted to with safety more than once in every twenty-four hours.

When it is desirable to apply a *douche-bath* to one or more of the joints it is only necessary to affix two or three yards of large-sized india-rubber tubing to the tap of a cistern. The patient must sit in an empty bath, into which the water may fall as it plays upon the limb. The reaction is greater after the use of hot and cold douches, alternately, than after the employment of water of only one temperature.

135. *The Shallow Bath.*

The patient sits in a bath some 6 feet long, with a depth of water (temperature 60° to 80° Fahr.) varying from 8 to 12 inches. The extremities and trunk are well rubbed by an assistant, while water is gently poured over the head. The duration of the bath ought to vary from five minutes to three-quarters of an hour, until the temperature of the body is lowered. The colder the water and the shorter the stay in it, the more stimulating and less sedative will be the effect. This bath is less exciting than the cold affusion, and is chiefly indicated where the latter would be improper—*i.e.*, where there is much nervous irritability. It is also better for women, who can seldom bear the cold affusion.

As a substitute for the shallow bath the *dripping sheet* is sometimes used. The patient stands upright in an empty bath, while the attendant placed at his back suddenly envelops him in a sheet dipped in cold water. The surface of the body is rapidly rubbed by the servant's flat hands for some three minutes, until the bather is in a glow, when a dry sheet is quickly substituted for the wet one, and the rubbing continued. The whole process should be over in five or six minutes.

136. *Wet Sheet Packing, &c.*

The patient is closely enveloped in a sheet which has been dipped in cold or tepid water and well wrung out. Or a long towel is wrung out of tepid water, and applied along the whole length of the back, while another, similarly prepared, is laid over the chest and abdomen. In either case the patient is then carefully wrapped in a blanket, covered with three or more blankets, and has a down coverlet tucked over all. He should remain thus for thirty, forty-five, or sixty minutes, lying on his side, or in a semi-recumbent position; the duration being timed by the sedative effect produced. The sweating is not generally excessive. But the water, urea, and chloride of sodium of the urine are slightly increased, this increase being considerable when the sheet is continued for four hours. At the conclusion the shallow bath may be used for two or three minutes, as a tonic.

The Wet Pack as a Cooling Agent.—When it is desired to bring down the temperature, as in the treatment of typhoid fever, the patient is enveloped in a dripping sheet and lightly covered by a single blanket, or in extreme cases left without any other covering than the wet sheet, which must be kept moist. The temperature must be taken at brief intervals in the mouth, rectum, or vagina, and when it falls to the normal point, or sooner should a distinct rigor occur, the patient should be removed from the pack.

A *blanket bath* affords an easy means of inducing sweating. A blanket is wrung out of hot water, and wrapped round the patient. He is to be packed in three or four dry blankets, and allowed to repose for thirty minutes. The surface of the body should then be well rubbed with warm towels, and the patient made comfortable in bed.

The *wet compress* consists merely of a roll of flannel or calico, dipped in cold water and wrung out, and then applied round the seat of pain. Over this a piece of waterproof cloth is worn. The compress is kept on night and day.

137. *The Bath as a Cooling Agent.*

Even the warm bath at a temperature of 95° or 90° Fahr. must prove a cooling agent to the body of a fever patient at 100° or 105°. The immersion may continue from fifteen minutes to an hour or longer. Its sedative effects render it valuable when the nervous system is irritable.

The temperature may, however, be lowered to 70° or 65° by the addition of cold water while the patient is in the bath. This *graduated bath* has proved effectual in saving life in cases of hyperpyrexia during acut rheumatism, typhoid fever, &c. The temperature of the patient mus be observed continuously, and when it has fallen to 102°, or thereabout, or when shivering comes on, he must be removed to bed. Typhoi fever, moreover, has been extensively treated by cold baths, 60° or 70°, with considerable success. The patient whenever the temperatur reaches 102° or 102½° is at once placed in the bath, and kept in it for 15 or 20 minutes. This may have to be repeated several times in the day.

In cases of delirium tremens with high fever, *cold superfusion* may b used while the patient is held in the warm bath. From ten to thirty buckets of cold water are to be poured slowly over the head, hot water being continually added to the bath to maintain its heat at 95°. This treatment may frequently be counted upon to produce sound sleep.

138. *Acid Sponging.*

One part of vinegar is to be added to two or three parts of cold water and the body well sponged with the mixture. Simple tepid water may sometimes be advantageously used. The patient being weak and unable to move, the sponging must be done by degrees—*i.e.*, the arms, chest, back, and legs are to be rapidly washed and dried *In many cases of fever, inflammation, scarlatina, &c.*

VIII. CATHARTICS AND ANTHELMINTICS.

139. *The Common Black Draught.*

℞. Magnesii Sulphatis, gr. 120; Mannæ, gr. 160; Tincturæ Sennæ, fl. drs. 2; Infusi Sennæ, fl. drs. 10. Make a draught. To be taken early in the morning. One ounce and a half of the officinal COMPOUND MIXTURE OF SENNA is equivalent to the foregoing.

140. *Calomel, Jalap, and Epsom Salts.*

℞. Hydrargyri Subchloridi, gr. 5; Pulveris Jalapæ, gr. 15. Make a powder. To be taken immediately; with the following draught three hours afterwards:—

℞. Magnesii Sulphatis, gr. 120; Mannæ, gr. 60; Tincturæ Jalapæ, fl. drs. 2; Aquæ Carui, fl. drs. 10. Mix. *A good active purgative in head affections, &c., as well as at the commencement of many acute diseases.*

141. *The White Mixture of Hospitals.*

℞. Magnesii Sulphatis, oz. 1½; Magnesiæ Ponderosæ, gr. 120; Aquæ Menthæ Piperitæ, fl. oz. 8. Mix. The addition of two fluid drachms of colchicum wine is sometimes advantageous. One-sixth part early every morning.

142. *Epsom Salts and Sulphuric Acid.*

℞. Magnesii Sulphatis, oz. 2; Acidi Sulphurici Aromatici, min. 90; Tincturæ Hyoscyami, fl. drs. 6; Infusum Quassiæ, ad fl. oz. 8. Mix. One-sixth part two or three times a day. *In painters' colic, copper colic, &c.*

℞. Magnesii Sulphatis, oz. ½; Infusi Rosæ Acidi, fl. oz. 2. Make a draught. To be taken early in the morning. *In mild febrile affections with much constipation.*

143. *Glauber's Salts and Sulphuric Acid.*

℞. Sodii Sulphatis, gr. 120; Ferri Sulphatis, gr. 3; Acidi Sulphurici Diluti, min. 15; Tincturæ Hyoscyami, min. 40; Infusi Calumbæ, fl. oz. 2. Make a draught. To be taken the first thing in the morning. *In obstinate constipation with debility. Also in some varieties of hæmorrhage where an aperient is needed,—as purpura, hæmatemesis, &c.*

℞. Sodii Sulphatis, gr. 240; Acidi Sulphurici Diluti, fl. dr. 1; Infusi Gentianæ Compositi, fl. oz. 6. Mix. Three tablespoonfuls to be taken daily, after luncheon or dinner. *In habitual constipation with flatulence.*

144. *Glauber's Salts and Taraxacum.*

℞. Sodii Sulphatis, gr. 120; Succi Taraxaci, fl. dr. 1; Decocti Taraxaci, fl. oz. 2. Make a draught. To be taken every morning before breakfast. *In constipation with deficient secretion of bile.* The taraxacum is a good vehicle for the sulphate of soda, even if it is incapable of influencing the secretion of bile. See F. 148.

145. *Aloes, Senna, and Jalap.*

℞. Tincturæ Sennæ, Tincturæ Jalapæ, āā fl. drs. 2; Infusi Sennæ fl. oz. 2; Decocti Aloes Compositæ, ad fl. oz. 8. Mix. Two tablespoonfuls to be taken night and morning.

146. *Rhubarb, Gentian, and Senna.*

℞. Tincturæ Rhei, fl. drs. 2; Spiritûs Ammoniæ Aromatici, min. 40; Infusi Gentianæ Compositi, Infusi Sennæ, āā fl. drs. 7. Make a draught. To be taken every morning an hour before breakfast. *A mild aperient n gouty dyspepsia.*

℞. Infusi Rhei Radicis, fl. oz. 4; Tinct. Gentianæ Compositæ, fl. drs. 4; odii Bicarbonatis, gr. 80; Spiritûs Chloroformis, min. 80; Aquam Menth. ip., ad fl. oz. 8. Mix. An eighth part to be taken before breakfast every norning.

147. *Nitric Acid, Senna, and Taraxacum.*

℞. Acidi Nitrici Diluti, min. 90; Spiritûs Ætheris Nitrosi, fl. drs. 2; ucci Taraxaci, fl. drs. 12; Tincturæ Sennæ, fl. oz. 4; Infusum Gentianæ

Compositæ, ad fl. oz. 8. Mix. One-sixth part twice or thrice daily. *In dyspepsia with debility and constipation. Also in passive hepatic congestion, in amenorrhœa with a loaded liver, &c.*

148. *Alkaline Aperients.*

℞. Decocti Aloes Compositi, Infusi Gentianæ Compositi, āā fl. oz. 4; Tincturæ Nucis Vomicæ, fl. dr. 1; Liquoris Potassæ, fl. drs. 2. Mix. One-sixth part, with two or three tablespoonfuls of water, early every morning. *Useful in bilious headache.*

℞. Sodii Sulphatis, oz. 1½; Sodii Phosphatis, oz. 1; Syrupi Zingiberis, fl. drs. 6; Aquam, ad fl. oz. 8. Mix. Three large tablespoonfuls immediately; the dose to be repeated after two hours, unless the bowels should be freely acted on.

℞. Sodii Sulphatis, Sulphuris Præcipitati, āā oz. 1½. Mix. Label,—"One teaspoonful in a tumblerful of milk and water early in the morning."—*In rheumatoid arthritis, chronic rheumatism, sciatica, pruritus, &c.*

149. *Phosphate of Soda and Aloes.*

℞. Extracti Rhei, gr. 10; Sodii Phosphatis, gr. 60; Decocti Alo Compositi, fl. drs. 6; Aquam Menthæ Viridis, ad fl. oz. 2. Make draught. To be taken occasionally at bedtime. *In some forms of chroni gout, jaundice from gall-stones, &c.*

150. *Aloes, Senna, and Epsom Salts.*

℞. Vini Aloes, fl. drs. 2; Infusi Sennæ, fl. drs. 14; Magnesii Sulphatis, gr. 240. Mix. Half of this mixture to be taken about 7 o'clock in th morning, and the remainder two hours after breakfast, if required.

151. *Jalap and Senna.*

℞. Tincturæ Sennæ, fl. oz. 1; Tincturæ Jalapæ, fl. drs. 2; Vini Colchici, fl. dr. 1; Aquæ Pimentæ, fl. oz. 2. Mix. Label,—"Half of this draught immediately, and the remainder in six hours, if necessary.

℞. Pulveris Jalapæ Compositi, gr. 30—60; Syrupi Sennæ, fl. dr. 1; Aquæ Camphoræ, fl. drs. 15. Make a draught. To be taken early every morning. *In dropsy.*

℞. Jalapæ Resinæ, gr. 3; Extracti Hyoscyami, gr. 2. Mix into a pill, to be taken at bedtime. An ounce and a half of the COMPOUND MIXTURE OF SENNA should be administered on the following morning. *In dropsy and in hepatic disease where an active purgative is needed.*

152. *Saline Purgative, with Antimonial Wine.*

℞. Vini Antimonialis, fl. dr. 1; Magnesii Sulphatis, gr. 160; Liquoris Ammonii Acetatis, fl. drs. 12; Syrupi Papaveris, fl. drs. 6 Aquam Camphoræ, ad fl. oz. 8. Mix. One-sixth part two or three times in the twenty-four hours. *Simple fever with constipation. In hepatic congestion, &c.*

153. *Sulphur and Magnesia.*

℞. Magnesiæ Ponderosæ, gr. 20; Sulphuris Præcipitati, gr. 25 Sodii Bicarbonatis, gr. 10; Pulveris Zingiberis, gr. 3. Make a powder To be taken early in the morning in a tumblerful of milk. *A valuabl* *aperient for delicate females subject to rheumatism. Also in prurigo, and some other skin diseases.*

154. *Steel and Aloes.*

℞. Ferri Sulphatis Granulatæ, gr. 2; Pilulæ Aloes et Myrrhæ, gr. 3. Make a pill, to be taken thrice daily after meals. *In amenorrhœa, chlorosis, hysteria with constipation and debility, &c.* See F. 421.

155. *Pepsine and Aloes.*

℞. Pepsinæ Porci, gr. 32; Extracti Aloes Barbadensis, gr. 4—8; Glycerini, sufficient to make a mass. Divide into eight pills, and order one to be taken every day at dinner. To prevent them from adhering to each other, these pills should either be silvered or pearl-coated. *Valuable in gastric and duodenal dyspepsia, some diseases of the rectum, certain forms of suppressed menstruation, &c.*

℞. Extracti Aloes, gr. 1; Extracti Belladonnæ, gr. $\frac{1}{3}$. Make a pill, to be taken daily after dinner or supper.

156. *Aloes and Galbanum.*

℞. Pilulæ Aloes et Myrrhæ, Pilulæ Assafœtidæ Compositæ, āā gr. 5. Make two pills. To be taken night and morning. *In hysteria with attacks of flatulent colic, and in some forms of amenorrhœa with constipation.*

157. *Elaterium, or Wild Cucumber.*

℞. Liquoris Ammonii Acetatis, fl. drs. 9; Spiritûs Ætheris Nitrosi, fl. drs. 4; Elaterii, gr. 1; Syrupi Zingiberis, fl. drs. 3. Mix. Direct,—"Two small teaspoonfuls in a wineglassful of water every two hours, until the bowels are freely acted on." *In early stages of acute dropsy with albuminuria.*

℞. Elaterii, gr. $1\frac{1}{2}$; Pulveris Capsici, gr. 9; Hydrargyri Subchloridi, gr. 12; Extracti Hyoscyami, gr. 18. Make a mass, divide into twelve pills, and order two to be taken for a dose. *If a very active purgative is required, the quantity of elaterium may be doubled. The capsicum prevents the nausea which this drug often produces.*

℞. Elaterii, gr. 1; Digitalis Foliæ, gr. 2—4; Extracti Gentianæ, gr. 12. Divide into four pills, and order one to be taken every night. *In dropsical effusions, and where it is desirable to produce copious watery stools.*

158. *Gamboge and Galbanum.*

℞. Pilulæ Cambogiæ Compositæ, Pilulæ Assafœtidæ Compositæ, āā gr. 5. Make two pills. To be taken every night at bedtime. *A good drastic hydragogue cathartic, acting chiefly upon the small intestines.*

159. *Calomel and Jalap, &c.*

℞. Hydrargyri Subchloridi, gr. 2—3; Pulveris Scammoniæ Compositi, gr. 4; Pulveris Aromatici, gr. 5. Mix, for a powder to be taken at bedtime. *A valuable purgative in the cerebral affections of children; also in cases of threadworm.*

℞. Hydrargyri Subchloridi, gr. 2; Extracti Jalapæ, gr. 8. Make into two pills, and order them to be taken at bedtime. *In cerebral affections, &c.*

℞. Hydrargyri Subchloridi, gr. 5; Pulveris Jalapæ Compositi, gr.

20—40. Make a powder, to be taken every night at bedtime. *A good hydragogue cathartic. The calomel increases the effect of the jalap and acid tartrate of potash (cream of tartar).*

℞. Hydrargyri Subchloridi, gr. 2; Pulveris Rhei, gr. 20; Jalapæ Resinæ, gr. 2; Pulveris Zingiberis, gr. 4. Mix. To be taken as a bolus in a little wafer paper, at bedtime.

160. *Podophyllum Peltatum, or May-apple.*

℞. Podophylli Resinæ, gr. ½; Pulveris Rhei, gr. 5; Extracti Hyoscyami, gr. 2. Make two pills. To be taken every night at bedtime. *As a purgative in jaundice from suppression, in torpid liver, and in dropsy, from cardiac or renal or hepatic disease. Podophyllin produces copious bilious stools; but it is rather uncertain, and is apt to gripe unless combined with henbane.*

℞. Podophylli Resinæ, gr 6; Pulveris Zingiberis, gr. 20; Jalapæ Resinæ, gr. 10; Digitalis Foliæ, gr. 3; Extracti Hyoscyami, gr. 20. Make a mass, divide into twelve pills, and order two to be taken every other night at bedtime. *As a drastic purgative in dropsy.* See F. 30.

161. *Ammonia and Rhubarb.*

℞. Spiritûs Ammoniæ Aromatici, fl. drs. 4; Tincturæ Rhei, fl. oz. 2; Infusi Rhei, ad fl. oz. 8. Mix. One-sixth part to be taken night and morning.

162. *Gentian, Ether, and Rhubarb.*

℞. Tincturæ Rhei, fl. oz. 1; Tincturæ Gentianæ Compositæ, fl. oz. 2; Spiritûs Ammoniæ Aromatici, Spiritûs Ætheris, āā fl. drs. 4; Aquæ Pimentæ, fl. oz. 4. Mix. Two tablespoonfuls to be taken occasionally. *In cases of colic, flatulence, nausea, or languor, where a warm stomachic aperient is needed.*

163. *Misturæ Cascaræ Co.*

℞. Extracti Cascaræ Sagradæ Liquidi, min. 20; Tinct. Nucis Vomicæ, min. 10; Tinct. Belladonnæ, min. 6; Chloroformi, min. 1; Aquam, ad fl. oz. 1. Make a draught, to be taken every morning early. *In chronic constipation.*

164. *Castor Oil.*

℞. Olei Ricini, fl. drs. 2—4. To be taken occasionally about 11 A.M. The taste of castor oil is entirely destroyed by mixing it with a teacupful of well salted and peppered beef tea.

℞. Mucilaginis Tragacanthæ, fl. oz. 2; Aquæ Cinnamomi, fl. oz. 3; Olei Ricini, fl. drs. 12; Tincturæ Rhei, Syrupi Aurantii, āā fl. drs. 6; Tincturæ Opii, min. 30. Mix. One-eighth part every three hours. *In dysentery, when there are scybala in the rectum. Also where an aperient with a sedative is indicated.*

165. *Rhubarb and Magnesia, or Soda.*

℞. Magnesiæ Ponderosæ, gr. 120; Pulveris Rhei, gr. 60; Vini Ipecacuanhæ, fl. drs. 2; Pulveris Aromatici, gr. 40; Aquæ Menthæ Piperitæ, fl. oz. 8. Mix. Three tablespoonfuls to be taken every morning.

℞. Pulveris Rhei, Sodii Bicarbonatis, āā gr. 20; Infusi Rhei, fl. oz. 1. Make a draught. To be taken early in the morning, with two or three tablespoonfuls of water, twice or thrice a week. *For gouty and rheumatic subjects.*

The Officinal PULVIS RHEI COMPOSITUS, in doses of 20 to 120 grains, is a valuable mild aperient where the intestinal secretions are deranged or diminished in quantity. *It is commonly known as* GREGORY'S *powder.*

166. *Epsom Salts and Sulphate of Iron.*

℞. Magnesii Sulphatis, gr. 120; Ferri Sulphatis, gr. 4; Acidi Sulphurici Diluti, min. 15; Extracti Quassiæ, gr. 20; Aquæ Pimentæ, fl. oz. 2. Make a draught. To be taken early in the morning. *In constipation with general debility.*

167. *Colocynth and Tartarated Antimony.*

℞. Pilulæ Colocynthidis et Hyoscyami, gr. 56; Antimonii Tartarati gr. 4. Divide into twelve pills, and order one to be taken every night at bedtime. *A valuable purgative in the cerebral congestions of strong subjects.*

168. *Croton Oil.*

℞. Olei Crotonis, min. 1—2; Olei Caryophylli, min. 2; Micæ Panis, sufficient to make a pill. To be taken immediately, and repeated in two hours if necessary.

℞. Olei Crotonis, min. 2; Olei Theobromæ, gr. 30. Make a suppository. To be introduced into the rectum early in the morning—about 5 A.M.

℞. Olei Crotonis, min. 1—2; Pilulæ Colocynthidis Compositæ, gr. 30; Pilulæ Assafœtidæ Compositæ, gr. 60. Make a mass, divide into eighteen pills, and order three to be taken every night at bedtime. *In cases of sciatica, obstinate neuralgia, &c., with constipation.*

169. *Seidlitz Powder.*

℞. Sodii Bicarbonatis, gr. 40; Sodii Tartaratæ, gr. 120. Mix, and make an effervescing draught with thirty-seven grains of Tartaric or Citric Acid dissolved in a tumblerful of water.

The Officinal EFFERVESCENT CITRO-TARTRATE OF SODA, in doses of a couple of teaspoonfuls, in a small tumblerful of cold or tepid water, is a very agreeable and mild aperient.

170. *Purified Ox Bile.*

℞. Ammonii Carbonatis, gr. 34; Fellis Bovini Purificati, gr. 36. Make a mass, divide into twelve pills, coat with Keratin, and order one to be taken three hours after each of the principal meals. *In dyspepsia with nausea, constipation, and a deposit of urates in the urine.*

℞. Jalapæ Resinæ, gr. 6—18; Fellis Bovini Purificati, gr. 24; Olei Carui, min. 10. Pilulæ Assafœtidæ Compositæ, gr. 18. Make a mass, divide into twelve pills, coat with Keratin, and order two to be taken every night two hours after supper. *To prevent an accumulation of fæces when the large intestines are torpid. Also where there is a deficiency of bile.*

℞. Pilulæ Colocynthidis et Hyoscyami, Fellis Bovini Purificati, Extracti Lupuli, āā gr. 20. Make a mass, divide into twelve pills, coat with Keratin, and order one to be taken every day three hours after dinner. *In constipation with flatulence and imperfect digestion of food.*

CAPSULES containing pig's bile, evaporated to dryness, have been prepared according to the directions of DR. HARLEY. Each capsule contains five grains of prepared bile,—equal to one hundred grains of liquid bile fresh from the gall bladder. Two or three are to be taken for a dose, about two hours after a meal; when gastric digestion being nearly completed, the chyme is ready to pass into the duodenum. The capsules imbibe moisture in the stomach; and then, in their soft swollen condition, generally get ruptured as they pass through the pylorus. In this way the bile is mingled with the chyme at the same time that the intermixture happens in the healthy organism. *In jaundice from long continued obstruction. Also in some forms of duodenal dyspepsia arising from sedentary habits.*

171. *Mercury, Rhubarb, and Henbane, or Ipecac.*

℞. Pilulæ Hydrargyri (*vel* Hydrargyri cum Cretâ). Pilulæ Rhei Compositæ, Extracti Hyoscyami, āā gr. 20. Mix, divide into twelve pills, and order two to be taken occasionally at bedtime.

℞. Pilulæ Hydrargyri, gr. 12; Pulveris Ipecacuanhæ, gr. 12; Pilulæ Rhei Compositæ, gr. 24. Mix, and divide into twelve pills. Two to be taken occasionally at night. *Where a stronger purgative is required the compound colocynth may be substituted for the compound rhubarb pill in either formulæ.*

172. *Sulphate of Magnesia.*

℞. Magnesii Sulphatis, gr. 180; Vini Colchici, min. 15; Infusi Sennæ, Infusi Gentianæ Compositi, āā fl. oz. 1. Make a draught, to be taken early in the morning. *In gouty or rheumatic habits, with a deficient secretion of bile.*

173. *Colocynth and Assafœtida.*

℞. Pilulæ Colocynthidis et Hyoscyami, Pilulæ Assafœtidæ Compositæ, āā gr. 5. Mix into two pills. To be taken occasionally at bedtime. *In constipation with flatulence. A valuable purgative for hypochondriasis.*

174. *Gamboge, Aloes, and Blue Pill.*

℞. Pilulæ Cambogiæ Compositæ, gr. 5; Pilulæ Hydrargyri, gr. 3. Make two pills. To be taken night and morning. *In dropsy from cardiac or hepatic disease where a drastic purgative is required.*

175. *Nux Vomica with Rhubarb, Aloes, &c.*

℞. Extracti Nucis Vomicæ, gr. 3; Pulveris Ipecacuanhæ, gr. 6; Pilulæ Rhei Compositæ *vel* Pilulæ Aloes et Assafœtidæ, gr. 40. Make a mass, divide into twelve pills, and order two to be taken every alternate night at bedtime. *In habitual constipation from atony of the coats of the bowel, with deficient secretion of intestinal mucus.*

℞. Extracti Nucis Vomicæ, gr. 4—6; Extracti Aloes Socotrinæ, gr. 12—18. Mix and divide into twelve pills, one to be taken every night *In atonic constipation.*

℞. Extracti Nucis Vomicæ, gr. 2; Extracti Aloes Barbadensis, gr. 6; Extracti Rhei, gr. 20. Mix and divide into six pills. One to be taken every day at dinner. *In torpor of the colon, some diseases of the rectum, &c.*

℞. Extracti Hyoscyami, gr. 40; Pilulæ Colocynthidis Compositæ *vel* Jalapæ Resinæ, gr. 20; Extracti Nucis Vomicæ, gr. 3. Mix, and divide into twelve pills. One pill to be taken every night. *In habitual constipation. They may be continued for about ten days.* See F. 378, 387, and 409.

176. *Rhubarb and Magnesia for Infants.*

℞. Pulveris Rhei, gr. 15; Magnesiæ Ponderosæ, gr. 60; Aquæ Anethi, fl. drs. 12. Mix, and order one teaspoonful to be taken every two hours until the bowels are freely acted on.

177. *Sulphate of Zinc and Nux Vomica.*

℞. Zinci Sulphatis, gr. 24; Extracti Nucis Vomicæ, gr. 2; Extracti Anthemidis, gr. 30. Mix, divide into twelve pills, and order one to be taken three times a day. *For habitual constipation, after the bowels have been cleared out with a purgative of calomel and colocynth. The pills should be taken immediately after meals, for two or three weeks. They ought to be discontinued gradually.*

178. *Quinine and Rhubarb.*

℞. Quininæ Sulphatis, gr. 2; Extracti Lupuli, gr. 5; Pilulæ Rhei Compositæ, gr. 3. Mix into two pills, and order them to be taken every day at dinner. *Useful in some forms of dyspepsia with want of tone.*

179. *Ipecacuanha, Rhubarb, and Oxide of Silver.*

℞. Pulveris Ipecacuanhæ, gr. 1; Pulveris Rhei, gr. 3; Argenti Oxidi, gr. 1; Confectionis Rosæ Caninæ, sufficient to form a pill. *A good dinner pill where there is uneasiness and oppression after meals, the result of slow digestion.*

180. *Steel, Glauber's Salts, &c.*

℞. Ferri Sulphatis Granulatæ, gr. 10; Sodii Sulphatis, Magnesii Sulphatis, āā oz. 1; Sodii Chloridi, gr. 120; Aquæ, O. 1. Mix. Four tablespoonfuls in a tumblerful of warm water early in the morning. *A rough imitation of the Cheltenham Waters. Useful in debility with constipation.*

181. *Steel, Glauber's Salts, and Soda.*

℞. Sodii Bicarbonatis, gr. 60; Sodii Chloridi, gr. 4; Sodii Sulphatis, gr. 10; Magnesii Sulphatis, gr. 3; Ferri Sulphatis, gr. ¼—1; Aquæ, O. 1. Mix. By adding forty grains of Citric Acid an effervescing water is produced. *A rough imitation of the Vichy Water. In some forms of chronic gout, &c.*

℞. Sodii Sulphatis, gr. 120—240; Sodii Carbonatis, gr. 20; Sodii Chloridi, gr. 15; Cretæ Preparatæ, gr. 10; Ferri Carbonatis Sacchaatæ, gr. 15. Make a powder, and direct it to be taken early in the morning in half a pint of water. *An imitation of the Carlsbad Waters.*

182. *Kamela, as an Anthelmintic.*

℞. Pulveris Kamelæ, gr. 60—180, *vel* Tincturæ Kamelæ, fl. drs. 2; Syrupi Aurantii, fl. drs. 2; Mucilaginis Tragacanthæ, fl. drs. 12; Aquam, ad fl. oz. 3. Make a draught. To be taken early in the morning A purgative should be administered six hours afterwards. Kamela is an orange-red resinous substance found adhering to the apsules of the Rottlera tinctoria, and is imported from India. *Strongly recommended in tapeworm.*

183. *Turpentine, as an Anthelmintic.*

℞. Olei Ricini, fl. drs. 4; Olei Terebinthinæ, fl. drs. 3; Mucilagi Tragacanthæ, fl. drs. 4; Syrupi Zingiberis, fl. dr. 1; Aquæ, fl. drs. Make a draught to be taken early in the morning. *In tapeworm, &c.*

184. *Kousso, as an Anthelmintic.*

℞. Cusso, in pulvere, gr. 240; Mellis Depurati, sufficient to make electuary. Label,—"Half of this electuary to be taken early in t morning, and the remainder six hours afterwards." *For tapeworm.*

The officinal INFUSUM CUSSO may be taken at the same hours, in dos of fl. oz. 4—8.

185. *Santonin, as an Anthelmintic.*

℞. Santonini, gr. 2—6; Sacchari Lactis, gr. 15. Make a powder. be taken early in the morning, suspended in a tablespoonful of crea The patient ought to have fasted for twelve hours previously. T dose may be repeated daily for eight or ten days, if necessary; and exhibition may be followed at the end of six hours by the administrati of an ounce of the Compound Decoction of Aloes. *A specific for t ascaris lumbricoides and oxyuris vermicularis. Less useful for the tæn solium. The patient should be warned that after a few doses the sig sometimes becomes perverted, so that objects seem to acquire a blue yellow or some other colour.* One-third of a grain of the resin of pod phyllum added occasionally to the dose of santonin appears to incre its efficacy.

186. *Pomegranate, as an Anthelmintic.*

℞. Spiritûs Ætheris, min. 30—60; Decocti Granati Radicis, fl. 1—2. Make a draught. To be taken every three hours until four dos have been used.

℞. Granati Radicis Corticis, gr. 180; Pulveris Aromatici, gr. 60. Mi and divide into six powders. One to be taken every two hours un the whole is consumed. *More active than the preceding. A saline pur should be given after the last dose.*

187. *Male Fern, as an Anthelmintic.*

℞. Extracti Filicis Liquidi, min. 60—90; Syrupi Zingiberis, fl. dr 2; Mucilaginis Tragacanthæ, fl. oz. 2; Aquam, ad fl. oz. 4. Make draught. To be taken early in the morning; only liquid nourishme having been allowed the previous day. Four hours afterwards a pu gative dose of castor oil or compound decoction of aloes should administered. *Especially useful for destroying tapeworms.*

188. *Simple Enemata.*

℞. Sodii Chloridi, oz. 1; Decocti Hordei, fl. oz. 12. Mix, to form a enema. *In simple constipation, to destroy oxyurides, &c.*

℞. Olei Olivæ, fl. oz. 6—8. To be warmed and then injected int the rectum. It should be retained for twelve or eighteen hour *Very useful in structural disease of the large bowel, impaction of harden fæces, &c.*

℞. Olei Olivæ, fl. drs. 12; Magnesii Sulphatis, gr. 240; Decoc Hordei, fl. oz. 12. Mix, for an enema. The officinal ENEMA MA NESIÆ SULPHATIS contains one ounce of Epsom salts and one ounc of olive oil, to fifteen ounces of fluid starch.

℞. Saponis Mollis, oz. 1; Aquæ Calidæ, fl. oz. 12. Mix, for an enema.

189. *Castor Oil and Rue Enema.*

℞. Olei Rutæ, min. 6; Olei Ricini, fl. oz. 1; Tincturæ Assafœtidæ, fl. drs. 2; Decocti Avenæ, fl. oz. 7. Mix. *Exceedingly useful in flatulent colic.*

190. *Castor Oil and Turpentine Enema.*

℞. Olei Ricini, fl. drs. 12; Olei Terebinthinæ, fl. drs. 4; Tincturæ Assafœtidæ, fl. drs. 2; Decocti Avenæ, fl. oz. 12. Mix. *In obstinate constipation. It should be thrown up into the bowel by means of a long tube like that of a stomach-pump.*

191. *Croton Oil Enema.*

℞. Olei Crotonis, min. 6; Olei Ricini, fl. oz. 1; Olei Terebinthinæ, fl. drs. 2; Decocti Hordei, fl. oz. 6. Mix. *In obstinate constipation. It should be retained for three or four hours, if possible.*

192. *Steel and Aloes Enema.*

℞. Tincturæ Ferri Perchloridi, fl. drs. 1—3; Extracti Quassiæ, gr. 5; Extracti Aloes Barbadensis, gr. 2; Infusi Quassiæ, fl. oz. 8. Mix. *To destroy oxyurides. It has often seemed advantageous to the Author to administer a dose of calomel and scammony at the same time.*

193. *Spigelia, as an Anthelmintic.*

℞. Spigelia Marilandica is an American plant which has been used with great success against round worms. The preparations in the U.S. Pharmacopœia are an Infusion, of which the dose is four fluid ounces for an adult; a Fluid Extract, dose, half a fluid ounce; and a Fluid Extract of Spigelia and Senna, dose, half a fluid ounce. For children give one-eighth to one quarter of these doses.

194. *Purgative Electuaries.*

℞. Confectionis Sennæ, Potassii Tartratis Acidæ, Extracti Taraxaci, āā oz. 1. Mix. One teaspoonful to be taken occasionally, an hour before breakfast. *In constipation with inactive liver, or hæmorrhoids.*

℞. Confectionis Piperis, Syrupi Sennæ, Confectionis Sulphuris, āā oz. 1; Pulveris Jalapæ, gr. 30. Mix. One teaspoonful every morning. *In constipation with chronic rheumatism.*

℞. Confectionis Sulphuris, oz. 2; Extracti Taraxaci, oz. 1. Mix, and label,—"One teaspoonful daily before breakfast." *In many diseases of the rectum.*

℞. Confectionis Sennæ, oz. 2; Confectionis Scammoniæ, Syrupi Zingiberis, āā oz. 1; Ferri Carbonatis Saccharatæ, gr. 220. Mix. One teaspoonful early every morning. *In some forms of constipation and want of tone.*

IX. CAUSTICS AND COUNTER-IRRITANTS.

195. *Acid Solution of Nitrate of Mercury.*

℞. Liquoris Hydrargyri Nitratis Acidi, fl. drs. 2; Pulveris Tragacanthæ Compositi, sufficient to make a mass. *To be applied as a paste* *over the surface to be destroyed. Instead, it is sometimes better to apply the caustic fluid itself for certain cases of cancer or lupus. The solution may also be carefully used to sloughing ulcers, boils, small nævi, &c. It is to be very lightly painted on by means of a glass brush or a glass rod.*

196. *Chromic Acid.*

℞. Acidi Chromici, gr. 60; Aquæ, fl. drs. 4. Mix. *To destroy warts, small growths of epithelial cancer, &c.*

197. *Chloride of Zinc, &c.*

℞. Bromii Chloridi, Zinci Chloridi, Auri Chloridi, Antimonii Chloridi, of each equal parts. Mix into a paste of sufficient thickness with flour or powdered liquorice. *To destroy cancerous growths. Commonly known as* Landolfi's *paste.*

℞. Sanguinariæ Canadensis, oz. $\frac{1}{2}$—1; Zinci Chloridi, oz. $\frac{1}{2}$—2; Aquæ, fl. oz. 2; Farinæ, sufficient to make a paste. Mix. *The paste thus formed should have the consistence of treacle. This is the caustic which was employed by* Dr. Fell.

℞. Zinci Chloridi, gr. 30—60; Farinæ, gr. 120; Aquæ Destillatæ, sufficient to form a mass. To be applied over the diseased surface. Or it may be made into sticks or flèches, and kept dried ready for use. An effectual method of removing a cancerous tumour is to introduce a portion of such a stick into an incision made in the mass.

198. *Supersulphate of Zinc.*

Take half a fluid ounce of sulphuric acid, and saturate it with sulphate of zinc, previously dried and powdered. Sir J. Y. Simpson recommended that this caustic should be used by dipping a pen in it, and then drawing lines across the tumour, so as to eat through the skin in a few minutes. The fissures thus made are to be filled with the paste; renewing the scratching and caustic every day or two. In this way, five or eight days may suffice for the removal of a good-sized tumour. By this combination also we can penetrate deeply without hardening the parts, and without fear of producing hæmorrhage.

199. *Arsenical Mucilage.*

℞. Acidi Arseniosi, Pulveris Acaciæ, āā oz. 1; Aquæ, fl. drs. 5. Mix. *The late* Dr. W. Marsden *spoke highly of this caustic in epithelioma; but less dangerous applications should be preferred. If employed, however, the affected part should be painted over with the mixture night and morning; taking care rigorously to limit the application to the diseased parts, and not to let it extend over more than one superficial inch at a time. As the part sloughs, its separation is to be aided by bread-and-water poultices; while after all the disease has been got rid of in consequence of the repeated applications of the mucilage, a carrot poultice is to be applied during the night, and a weak black wash (calomel gr. 60 to lime water one pint) during the day until the part is healed.*

200. *Lime and Arsenic Powder.*

℞. Calcis Recentis, oz. $\frac{1}{2}$; Arsenici Sulphureti Flavi, gr. 20; Pulveris Amyli, gr. 180. Mix to form a powder. *To be used very cautiously as a depilating powder. The application is not free from danger.*

201. *Red Oxide of Mercury Powder.*

℞. Hydrargyri Oxidi Rubri, Aluminis, āā gr. 60. Make a powder. *To be sprinkled over exuberant and spongy granulations.*

202. *Carbonate of Copper Ointment.*

℞. Cupri Carbonatis, gr. 60; Adipis Preparati, oz. ½. Mix, to form an ointment.—DEVERGIE. *In chronic eczema and impetigo of the scalp where stimulating applications are required.*

203. *Dupuytren's Arsenic and Calomel Powder.*

℞. Acidi Arseniosi, gr. 12; Hydrargyri Subchloridi, oz. 1. Mix. *In ulcerated lupus. Must be very cautiously used.*

204. *Vienna Caustic.*

℞. Potassæ Causticæ, Calcis, āā oz. 1. Mix thoroughly. *This paste is diluted with alcohol, and applied with a spatula over a small surface. It is identical with the Potassa cum Calce of the London Pharmacopœia*—1836.

205. *Iodine Paint.*

℞. Iodi, gr. 40; Potassii Iodidi, gr. 30; Spiritûs Vini Rectificati, fl. oz. 1. Mix. *To be applied with a camel's-hair pencil. Very useful in many chronic pains, and in some uterine diseases.*

℞. Iodi, Potassii Iodidi, āā grs. 20; Collodii, fl. oz. 1. Mix.

℞. Iodi, gr. 120; Olei Petrolei Albi, fl. oz. 1. Mix. *To be applied with a firm brush. Very useful in ringworm; two or three applications, at intervals of eight or ten days, will frequently effect a cure.*

The officinal LINIMENTUM IODI may also be used, but it must be diluted with from one to three parts of spirit or glycerine or tincture of aconite.

206. *Bromine and Iodine.*

℞. Bromi, min. 5; Iodi, gr. 18; Tincturæ Iodi, fl. oz. 1. Mix very cautiously so as to avoid all risk of an explosion. *To be employed to cancerous and rodent ulcers.*

207. *Croton Oil Liniment.*

℞. Olei Crotonis, min. 30; Olei Olivæ, fl. drs. 2. Mix, for a liniment. *To produce rubefaction and a pustular eruption, where counter-irritation is required for the relief of diseases of internal organs.*

208. *Blistering and Epispastic Papers.*

The officinal *Charta Sinapis* (B.P.) and *Charta Epispastica* (B.P.) are most usually used by British practitioners, although there are many other similar plasters prepared with mustard or cantharides and sold by enterprising firms both in this country and abroad. Those of M. Albespeyre are well known.

X. DIAPHORETICS AND DIURECTICS.

209. *Nitre and Ipecacuanha.*

℞. Potassii Nitratis, gr. 60, *vel* Potassii Citratis, gr. 120; Vini Ipecacuanhæ, fl. drs. 2; Syrupi Hemidesmi, fl. oz. 1; Decoctum Hordei, ad O. 1. Mix. One small teacupful to be taken every two or three hours. *In severe catarrh with sore throat.*

210. *Antimony and Opium.*

℞. Vini Antimonialis, fl. drs. 1—2; Liquoris Ammonii Acetatis, fl. drs. 12; Extracti Opii Liquidi, min. 30; Aquam Camphoræ, ad fl. oz. 8. Mix. One-sixth part three times a day. *Each fluid drachm of the wine contains one quarter of a grain of antimony.*

210*a*. *Jaborandi and Pilocarpine.*

℞. Pulveris Jaborandi, gr. 60—90. Infuse in a cupful of hot water. When cool, let the infusion and the dregs be swallowed.

℞. Pilocarpinæ Hydrochloratis, gr. 2; Aquæ Destillatæ, fl. oz. 4. Dissolve. Dose,—one to three teaspoonfuls. Pilocarpine is most conveniently administered by hypodermic injection. The solution used may be of the strength of one grain to sixteen minims of distilled water. Four to eight drops (=gr. $\frac{1}{4}$ to gr. $\frac{1}{2}$) should be injected. Pilocarpine solutions do not keep well. Messrs. Savory & Moore make gelatine discs, each containing $\frac{1}{12}$ grain, which keep well, and dissolve easily in a few minims of warm water. *Jaborandi and its alkaloid pilocarpine are the most powerful diaphoretics we possess. They rapidly produce profuse sweating, and usually also salivation. The sweating is increased by external warmth. The pulse is markedly quickened, and the pupil contracted. These drugs have been used successfully in scarlatinal nephritis, in uræmia, and chronic Bright's disease, in puerperal convulsions, and in ordinary catarrh. They have also a decided influence in increasing the secretion of milk in suckling women.*

211. *Nitrate of Potash and Aconite.*

℞. Potassii Nitratis, gr. 120; Liquoris Ammonii Acetati, fl. drs. 18; Spiritûs Ammoniæ Aromatici, fl. drs. 3; Tincturæ Aconiti, min. 30; Aquam, ad fl. oz. Mix. One-sixth part every four or six hours. *In pneumonia, and many other acute inflammations. Sometimes it is preferable to give only the Solution of Acetate of Ammonia diluted with water (two or three fluid drachms to two ounces).*

212. *Ether and Ammonia.*

℞. Potassii Nitratis, gr. 30—60; Spiritûs Ætheris Nitrosi, fl. drs. 3; Liquoris Ammonii Acetatis, fl. drs. 12; Aquam Camphoræ, ad fl. oz. 8; Mix. One-sixth part three or four times a day. *In the early stage of many febrile and inflammatory disorders.*

℞. Ammonii Carbonatis, gr. 18—30; Spiritûs Chloroformi, fl. drs. 3; Vini Colchici, min. 30; Liquoris Ammonii Acetatis, fl. drs. 20; Mucilaginis Tragacanthæ, fl. oz. 4; Aquam, ad fl. oz. 8. Mix. One-sixth part every four hours. *Valuable in some forms of pneumonia, gouty inflammation, &c.*

213. *Dover's Powder and Antimony, &c.*

℞. Pulveris Ipecacuanhæ Compositi, gr. 5; Antimonii Tartarati, gr. $\frac{1}{4}$. Mix, and make a powder, to be taken every six hours.

℞. Pulveris Opii, Pulveris Ipecacuanhæ, āā gr. 1; Potassii Nitratis, gr. 8. Make a powder, to be taken every night at bedtime. *An improvement on the ordinary Dover's powder.*

214. *Senega and Guaiac.*

℞. Tincturæ Guaiaci Ammoniatæ, fl. drs. 3—6; Mucilaginis Tragacanthæ, fl. oz. 3. Mix thoroughly together, and then add,—Infusum Senegæ, ad fl. oz. 8. Three tablespoonfuls to be taken thrice daily. *Useful in the latter stages of bronchitis, tonsillitis, &c. The action is diaphoretic, diuretic, stimulant, and expectorant.*

℞. Tincturæ Guaiaci Ammoniatæ, fl. drs. 2; Vitelli Ovi, 1. Beat thoroughly together, and then add,—Misturæ Amygdalæ, fl. oz. 4. Direct one-half to be taken twice a day. *In chronic rheumatism.*

215. *Benzoate of Ammonia and Juniper.*

℞. Ammonii Benzoatis, gr. 60—120; Syrupi Hemidesmi, fl. oz. 1; Spiritûs Juniperi, fl. drs. 6; Aquam, ad fl. oz. 8. Mix. One-sixth part three times a day. *As a diuretic in dropsy and gout. In cases where the urine is loaded with phosphates. Also in catarrhal inflammation of the bladder with alkaline urine.*

216. *Ipecacuanha and Syrup of Poppies.*

℞. Vini Ipecacuanhæ, fl. drs. 2; Syrupi Papaveris, fl. drs. 3; Mucilaginis Tragacanthæ, fl. oz. 1; Aquam, ad fl. oz. 3. Mix. One teaspoonful every two or three hours. *An infantile cough mixture.*

℞. Vini Ipecacuanhæ, fl. drs. 2; Syrupi Papaveris, fl. drs. 3; Liquoris Ammonii Acetatis, fl. drs. 4; Spiritûs Ætheris Nitrosi, fl. dr. 1; Aquam, ad fl. oz. 2. Mix. One tablespoonful every two or three hours. *In the early stage of infantile fever, severe catarrh, bronchitis, and pneumonia.*

217. *Antimony and Ipecacuanha.*

℞. Vini Antimonialis, min. 75; Vini Ipecacuanhæ, fl. drs. 2; Syrupi Rhœados, fl. drs. 3; Liquoris Ammonii Acetatis, fl. drs. 2; Aquam, ad fl. oz. 6. Mix. A small tablespoonful every two hours. *A depressing mixture for children two or three years of age.*

218. *Citrate of Caffeine.*

Citrate of Caffeine is strongly recommended by Dr. Brakenridge, *of Edinburgh, as a diuretic of extraordinary power when given with digitalis in cardiac dropsy, very greatly increasing the diuretic effect of digitalis. He believes that it has a special stimulant action on the renal glandular epithelium, causing increase in the amount of urinary solids, whilst digitalis acts by increasing the vascular tension in the glomeruli. It is useful unaided in the later stages of nephritis, when the vascular tension is normal, but does no good in the early stage of acute nephritis, or in cardiac disease in which the vascular tension is very low. Three grains should be given three times daily.*

219. *Squills, Digitalis, Broom, &c.*

℞. Potassii Acetatis, gr. 120; Syrupi Scillæ, fl. drs. 6; Spiritûs Ætheris Nitrosi, fl. drs. 3; Tincturæ Digitalis, min. 30—fl. dr. 1; Succi Scoparii, fl. drs. 6; Aquam, ad fl. oz. 8. Mix. One-sixth part every six or eight hours. *As a diuretic in dropsy dependent upon disease of the heart, liver, or peritoneum.*

℞. Tincturæ Scillæ, fl. drs. 2; Tincturæ Camphoræ Compositæ, fl. drs. 4; Liquoris Ammonii Acetatis, fl. drs. 12; Decoctum Scoparii, ad fl. oz. 8. Mix. One-sixth part three times a day. *Diuretic and* *diaphoretic. In dropsies unaccompanied by inflammation, and not due to renal disease.*

℞. Spiritûs Juniperi, fl. drs. 4; Potassii Tartratis Acidæ, oz. 1; Decoctum Scoparii, ad fl. oz. 12. Mix. One-sixth part three times a day. *Diuretic and laxative.*

℞. Pulveris Scillæ, gr. 6; Digitalis Foliæ, gr. 8—12; Pilulæ Hydrargyri, gr. 30. Make a mass, divide into twelve pills, and order one to be taken night and morning with a wineglassful of the DECOCTUM SCOPARII. See F. 224.

℞. Liquoris Potassæ, fl. drs. 1—2; Spiritûs Ætheris Nitrosi, fl. drs. 6; Tincturæ Croci, fl. drs. 3; Infusi Digitalis, fl. drs. 12; Syrupi, fl. drs. 6; Aquam, ad fl. oz. 8. Mix. One-sixth part three times a day. *A valuable diuretic in some forms of cardiac and hepatic dropsy.*

220. *Copaiba Resin.*

℞. Resinæ Copaibæ, gr. 90; Spiritûs Vini Rectificati, fl. drs. 2; Spiritûs Chloroformi, fl. dr. 1; Misturæ Acaciæ, fl. oz. 1; Aquam, ad fl. oz. 6. Mix. One-sixth part three times a day. *As a diuretic in ascites.*

221. *Nitre, Juniper, and Ether.*

℞. Potassii Nitratis, gr. 60; Spiritûs Juniperi, fl. drs. 1—2; Spiritûs Ætheris Nitrosi, fl. drs. 3; Infusi Buchu, ad fl. oz. 8. Mix. One-sixth part every six hours. *A tonic and stimulating diuretic. In scrofula, atonic dropsies, catarrhal inflammation of the bladder, and some skin diseases.*

222. *Buchu and Cream of Tartar.*

℞. Potassii Tartratis Acidæ, gr. 180; Infusi Buchu, fl. oz. 8. Mix. One-sixth part three times a day. *Diuretic and laxative. In irritable conditions of the bladder, owing to excess of uric acid in the urine. Also in chronic rheumatism, dropsy, and some cutaneous diseases.*

223. *Buchu, Borax, and Pareira.*

℞. Boracis, gr. 40; Tincturæ Buchu, fl. drs. 6; Extracti Pareiræ Liquidi, fl. drs. 6; Decoctum Pareiræ, ad fl. oz. 8. Mix. One-sixth part every six or eight hours. *In chronic catarrh of the bladder, calculous affections, &c.*

224. *Digitalis, Squills, and Colchicum.*

℞. Potassii Citratis, gr. 200; Tincturæ Scillæ, fl. drs. 2; Vini Colchici, fl. drs. 1½; Liquoris Ammonii Acetatis, fl. drs. 12; Infusi Digitalis, fl. oz. 3; Aquam Menthæ Piperitæ, ad fl. oz. 8. Mix. One-sixth part three times a day. *Diuretic and sedative. In some forms of dropsy with disease of the mitral valves.*

225. *Digitalis, Squills, and Taraxacum.*

℞. Digitalis Foliæ, Pulveris Scillæ, āā gr. 12; Extracti Taraxaci, gr. 36. Make a mass, divide into twelve pills, and order one to be taken twice a day. *Valuable as a diuretic in mitral disease.* See F. 219.

226. *Cantharides and Nitrous Ether.*

℞. Tincturæ Cantharidis, fl. drs. 1—2; Spiritûs Ætheris Nitrosi, fl. drs. 3; Spiritûs Juniperi, fl. drs. 4; Syrupi Zingiberis, fl. drs. 6;

Aquam, ad fl. oz. 8. Mix. One-sixth part three times a day. *May be cautiously tried in some cases of suppression of urine. Also in some skin diseases.*

227. *Taraxacum and Nitric Acid.*

℞. Acidi Nitrici Diluti, fl. dr. 1; Succi Taraxaci, fl. drs. 6; Decoctum Taraxaci, ad fl. oz. 8. Mix. One-sixth part three times a day. *Laxative, alterative, and diuretic. Especially useful in disease of the liver unaccompanied by inflammation.*

228. *Cream of Tartar and Taraxacum.*

℞. Potassii Tartratis Acidæ, oz. 1; Extracti Taraxaci, gr. 30; Decocti Taraxaci, fl. oz. 8. Mix. One-sixth part three times a day. *In jaundice independent of hepatitis or obstruction of the duct of the gall bladder.*

229. *Oil of Juniper.*

℞. Olei Juniperi, min. 20; Syrupi Limonis, fl. drs. 6; Mucilaginis Acaciæ, ad fl. oz. 4; Aquam, ad fl. oz. 12. Mix. One-sixth part every six or eight hours. *The oil of juniper has not only a diuretic action, but it is also a diaphoretic and an emmenagogue and a cathartic. In too large doses it may cause inflammation of the bladder.*

230. *Conium, Digitalis, and Calomel.*

℞. Digitalis Foliæ, Hydrargyri Subchloridi, āā gr. 5; Extracti Conii, gr. 60. Make a mass, divide into fifteen pills, and order one to be taken three times a day. *As a sedative and diuretic in dropsy from cardiac disease.*

XI. EMETICS AND EXPECTORANTS.

231. *Depressing Emetics.*

℞. Antimonii Tartarati, gr. 1—2; Vini Ipecacuanhæ, fl. drs. 2; Aquam, ad fl. oz. 2. Make a draught to be taken immediately. *Its action should be aided by the free administration of warm water.*

℞. Antimonii Tartarati, gr. 1; Pulveris Ipecacuanhae, gr. 20. Make a powder. To be taken in honey or cream, or as a bolus in wafer paper.

℞. Vini Ipecacuanhæ, fl. oz. 1. To be taken when it is desired to induce vomiting. *For children one fluid drachm in tea or sweetened water, will generally suffice.*

232. *Stimulant Emetics.*

℞. Pulveris Sinapis, oz. ½; Aquæ, fl. oz. 3. Make a draught. To be taken immediately.

℞. Cupri Sulphatis, gr. 10; Aquæ, fl. oz. 3. Make an emetic draught.

℞. Zinci Sulphatis, gr. 20—40; Aquæ, fl. oz. 3. Mix.

233. *A Prompt Emetic.*

℞. Injectio Apomorphinæ Hypodermica (B. P.) Dose 2 to 8 min. by subcutaneous injection.

234. *Tartar Emetic Mixture.*

℞. Antimonii Tartarati, gr. 2; Syrupi Rhœados, Aquæ, āā fl. drs. 4. Mix and label,—"One teaspoonful every two hours, in a wineglassful of water, until there is nausea." *As a depressant to the circulating and nervous systems.*

235. *Ammonia and Senega.*

℞. Ammonii Carbonati, gr. 30; Spiritûs Ætheris, fl. drs. 3; Tincturæ Scillæ, fl. drs. 2; Tincturæ Camphoræ Compositæ, fl. drs. 2—4; Tincturæ Lavandulæ Compositæ, fl. drs. 6; Infusum Senegæ, ad fl. oz. 8. Mix. Two tablespoonfuls every four hours. *In the chronic bronchitis of old people.*

℞. Spiritûs Ammoniæ Aromatici, fl. drs. 4; Spiritûs Armoraciæ Compositi, min. 60; Tincturæ Senegæ, fl. drs. 6; Aquam Camphoræ, ad fl. oz. 8. Mix. One-sixth part every six hours. *A valuable stimulating expectorant in some cases of chronic bronchitis.*

℞. Ammonii Carbonati, gr. 24; Vini Ipecacuanhæ, fl. dr. 1; Syrupi Tolutani, fl. dr. 3; Liq. Ammonii Acetatis, fl. oz. 2; Infusum Senegæ, ad fl. oz. 8. Mix. Two tablespoonfuls every four hours. *In bronchitis, &c.*

℞. Ammonii Carbonati, gr. 12; Vini Ipecacuanhæ, min. 40; Tincturæ Senegæ, fl. drs. 2; Syrupi Rhœados, fl. drs. 3; Aquam, ad fl. oz. 3. Mix. One dessertspoonful every two or three hours. *An excellent stimulating expectorant for young children recovering from croup. In whooping cough, where the bronchi are loaded with mucus.*

236. *Squills, Nitric Acid, and Bark or Steel.*

℞. Syrupi Scillæ, fl. drs. 6; Acidi Nitrici Diluti, fl. dr. 1; Tincturæ Hyoscyami, fl. drs. 3—6; Spiritûs Chloroformi, fl. drs. 2; Infusum Cinchonæ Acidi, ad fl. oz. 8. Mix. One-sixth part twice or thrice daily. *In chronic catarrh with debility and restlessness.*

℞. Syrupi Scillæ, fl. drs. 6; Tincturæ Ferri Perchloridi, fl. dr. 1; Tincturæ Camphoræ Compositæ, fl. drs. 3—6; Spiritûs Chloroformi, fl. dr. 1; Aquam, ad fl. oz. 6. Mix. One-sixth part three times a day. *In chronic catarrh with debility.*

237. *Ammoniacum and Opium.*

℞. Tincturæ Scillæ, fl. drs. 2; Extracti Opii Liquidi, min. 20—30; Syrupi Tolutani, fl. drs. 6; Misturæ Ammoniaci, fl. oz. 5. Mix. One-sixth part three times a day. *A sedative and expectorant mixture in the chronic bronchitis of elderly people.*

238. *Sarsaparilla and Squills.*

℞. Extracti Sarsæ Liquidi, Syrupi Scillæ, āā fl. drs. 12. Mix, and label,—"One teaspoonful in a teacupful of barley water frequently during the day." *An agreeable demulcent and expectorant in inflammation of the mucous membranes about the throat and air passages.*

239. *Squills, Ammonia, and Morphia.*

℞. Syrupi Scillæ, fl. drs. 6; Spiritûs Ammoniæ Aromatici, fl. drs. 3;

Liquoris Morphinæ Hydrochloratis, fl. dr. 1 (equivalent to half a grain of the salt); Infusum Serpentariæ, ad fl. oz. 8. Mix. One-sixth part twice or thrice a day. *In chronic catarrh.*

240. *Antimony and Ether.*

℞. Vini Antimonialis, fl. drs. 1½; Spiritûs Ætheris, fl. drs. 3; Mucilaginis Tragacanthæ, fl. oz. 3; Aquam, ad fl. oz. 6. Mix. One-sixth part every four hours. *The quantity of antimonial wine should be doubled when it is desirable to induce a feeling of nausea.*

241. *Ipecacuanha and Indian Sarsaparilla.*

℞. Vini Ipecacuanhæ, fl. drs. 2; Syrupi Hemidesmi, fl. drs. 3; Mucilaginis Acaciæ, fl. oz. 1; Aquam, ad fl. oz. 2. Mix. One teaspoonful every two hours. *For children threatened with an attack of croup or bronchitis.*

℞. Vini Ipecacuanhæ, fl. drs. 2; Syrupi Hemidesmi, fl. oz. 1; Infusum Lini, ad fl. oz. 8. Mix. One-sixth part every four hours. *An emollient and expectorant in catarrh.*

242. *Indian Tobacco and Hemlock.*

℞. Tincturæ Lobeliæ Æthereæ, fl. drs. 3; Syrupi Papaveris, fl. drs. 6; Tincturæ Conii Fructus, fl. drs. 2—4; Misturam Amygdalæ, ad fl. oz 6. Mix. One-sixth part every four hours. *In spasmodic cough, and some forms of asthma.*

243. *Squills and Hemlock or Hyoscyamus.*

℞. Pilulæ Scillæ Compositæ, Extracti Conii, āā gr. 30. Make a mass, divide into twelve pills, and order two to be taken every night at bedtime. *In chronic catarrh, when opium is objectionable.*

℞. Syrupi Scillæ, fl. oz. 6; Spiritûs Ætheris Nitrosi, Tincturæ Hyoscyami, āā fl. drs. 3; Infusum Rosæ Acidi, ad fl. oz. 8. Mix. One-sixth part every six hours. *In influenza, catarrh, &c.*

244. *Nitrous Ether, Ipecacuanha, and Hemlock.*

℞. Vini Ipecacuanhæ, fl. drs. 1½; Spiritûs Ætheris Nitrosi, fl. drs. 6; Succi Conii, fl. drs. 3; Infusum Senegæ, ad fl. oz. 8. Mix. One-sixth part every six hours. *In chronic bronchitis, when an expectorant and sedative is required.*

245. *Dulcamara and Stramonium.*

℞. Tincturæ Scillæ, fl. drs. 2; Tincturæ Stramonii, fl. drs. 1½; Infusum Dulcamaræ, ad fl. oz. 8. Mix. One-sixth part three times a day. *In chronic catarrh and rheumatism, especially where the secretions of the skin and kidneys are deficient.*

246. *Benzoic Acid and Squills.*

℞. Acidi Benzoici, gr. 40; Syrupi Scillæ, Syrupi Rhœados, āā fl. drs. 12. Make a linctus, of which one small teaspoonful is to be ordered to be taken every four hours. *In chronic bronchial affections with suppressed action of the liver.* See F. 49.

247. *Opium and Squills.*

℞. Syrupi Scillæ, Syrupi Papaveris, Syrupi Tolutani, Mucilaginis Tragacanthæ, āā fl. drs. 4. Make a linctus, of which a teaspoonful is to be directed to be taken frequently.

℞. Syrupi Scillæ, fl. drs. 10; Tincturæ Conii, fl. drs. 2; Tincturæ Camphoræ Compositæ, fl. drs. 4. Make a linctus, and order one teaspoonful to be taken when the cough is troublesome. See F. 346, 347.

℞. Syrupi Scillæ, Syrupi Tolutani, Tincturæ Camphoræ Compositæ, āā oz. 1. Mix. A teaspoonful to be taken every three or four hours while the cough is troublesome.

XII. GARGLES AND INHALATIONS.

248. *Hydrochloric Acid Gargle, &c.*

℞. Acidi Hydrochlorici Diluti, fl. drs. 3; Mellis Depurati, oz. 1; Infusum Rosæ Acidi, ad fl. oz. 8. Mix. *In tonsillitis after the acute stage, and in relaxed sore throat.*

249. *Zinc and Rhatany Gargle.*

℞. Zinci Sulphatis, gr. 20; Syrupi Mori, fl. drs. 4; Glycerini, fl. oz. 1; Infusum Krameriæ, ad fl. oz. 8. Mix. *For relaxation of the uvula and fauces.*

250. *Borax Gargles.*

℞. Boracis, gr. 120; Tincturæ Myrrhæ, fl. oz 1; Aquam, ad fl. oz. 8; Mix. *Useful in aphthæ and ulcerations about the fauces.*

℞. Boracis, gr. 120; Glycerini, fl. oz. 1. Mix. To be painted over the gums, tongue, &c., with a camel's-hair pencil. *In aphthæ. Useful in pruritus vulvæ. This is now officinal and is preferable to* BORAX HONEY, *as the sugar of the latter favours the formation of fungi.*

℞. Boracis, gr. 60; Glycerini, fl. drs. 12; Aquam Rosæ, ad fl. oz. 4. Mix. *To be painted over the tongue in some forms of ulceration, fissure, &c.*

℞. Boracis, gr. 180; Syrupi Scillæ, fl. dr. 1; Aquam, ad fl. oz. 8. Mix. *As a gargle in chronic inflammation of the fauces.*

251. *Tannin Gargle.*

℞. Acidi Tannici, gr. 20; Spiritûs Vini Gallici, fl. oz. 1; Aquam Camphoræ, ad fl. oz 8. Mix. The officinal TANNIC ACID LOZENGES may be used at the same time.

℞. Tincturæ Myrrhæ, fl. drs. 4; Acidi Tannici, gr. 35; Eau de Cologne, fl. drs. 12. Mix. *The gums are to be sponged with this preparation three or four times a day in cases of chronic gingivitis, ulceration, loosening of the teeth, &c.*

252. *Alum Gargles.*

℞. Aluminis Exsiccati, gr. 80; Tincturæ Myrrhæ, fl. oz. 1; Aquæ, fl. oz. 7. Mix. *In mercurial salivation, ulceration about the mouth and fauces, &c.*

℞. Aluminis Exsiccati, gr. 60; Tincturæ Capsici, fl. dr. 1; Syrupi Mori, fl. oz. 1; Aquam Rosæ, ad fl. oz. 8. Mix. *In hoarseness, sore throat, &c., with relaxation of the uvula or tonsils.*

253. *Opium and Belladonna Gargle.*

℞. Tincturæ Opii, fl. drs. 2; Tincturæ Belladonnæ, fl. drs. 3; Aquam Camphoræ, ad fl. oz. 8. Mix. *To be used frequently in acute tonsillitis.*

254. *Chlorinated Soda Gargle.*

℞. Liquoris Sodæ Chlorinatæ, fl. drs. 6 ; Aquam, ad fl. oz. 8. Mix. *In ulcerated sore throats, profuse salivation, &c. It may also be used as a lotion to foul gangrenous ulcers, as well as to the seat of irritation in prurigo.*

255. *Creasote Gargle.*

℞. Creasoti, min. 20 ; Tincturæ Lavandulæ Compositæ, Tincturæ Myrrhæ, āā fl. drs. 4 ; Syrupi Limonis, fl. drs. 12 ; Aquam, ad fl. oz. 8. Mix. *In chronic inflammation of the throat, dysphonia clericorum, &c.*

256. *Corrosive Sublimate Gargle.*

℞. Hydrargyri Perchloridi, gr. 2 ; Acidi Nitrici Diluti, min. 30 ; Tincturæ Myrrhæ, fl. oz. 1 ; Aquam, ad fl. oz. 8. Mix.

℞. Hydrargyri Perchloridi, gr. 3 ; Glycerini, fl. oz. 1 ; Extracti Conii, gr. 60 ; Aquam, ad fl. oz. 8. Mix. *Useful in syphilitic affections of the tongue and throat. The patient must use one tablespoonful at a time, and should be cautioned against swallowing it.*

257. *Permanganate of Potash Gargle.*

℞. Liquoris Potassii Permanganatis, fl. oz. 1 ; Potassii Chloratis, gr. 100 ; Aquam Destillatam, ad fl. oz. 8. Mix. *In diphtheria, ulceration of fauces, &c.*

258. *Sulphite of Soda.*

℞. Sodii Sulphitis, gr. 60 ; Aquæ, fl. oz. 1. Mix. To be frequently applied by means of a camel's-hair pencil to the mucous membrane of the mouth and fauces. *In cases of aphthæ.*

259. *Iodine Inhalation.*

℞. Tincturæ Iodi, min. 30 ; Aquæ Calidæ, fl. oz. 4. Mix. The vapour is to be cautiously inhaled. *In some cases of laryngeal phthisis, diphtheria, &c.* If decolourised by the addition of a few grains of Carbolic Acid it makes an excellent douche for the nose in ozæna.

In *severe coryza* great relief is given by holding a small bottle of Tincture of Iodine under the nose. The warmth of the hand suffices to vaporize the iodine.

260. *Turpentine and Creasote Inhalations.*

℞. Olei Terebinthinæ, fl. oz. 1 ; Aquæ Calidæ, fl. oz. 5. Mix. *In chronic bronchitis with excessive secretion. To be used with a common inhaler.*

℞. Creasoti, min. 30 ; Aquæ Bullientis, fl. oz. 8. Mix. *In eczema and other affections of the nostrils, pharynx, &c.*

261. *Antiseptic Inhalations.*

℞. Creasoti, Acidi Carbolici, āā drs. 4 ; Thymolis, fl. dr. 2 ; Spiritûs Rectificati, ad fl. oz. 2. Mix. Ten drops at a time to be placed in Dr. Sinclair Coghill's inhaler, or between two layers of cotton wool for inhalation.

℞. Tincturæ Iodi Etheriæ, Acidi Carbolici, Creasoti, āā fl. dr. 1 ; Spiritûs Rectificati, fl. drs. 4. Mix. Ten drops to be inhaled as above. *Extremely useful in phthisis and chronic bronchitis.*

261*a*. *Nitrite of Amyl Inhalations.*

Nitrite of Amyl, inhaled cautiously from the bottle, or by crushing one of the thin glass capsules containing this drug (*see* F. 85*a*), *is sometimes of service in asthma, and chloroform poisoning.*

261*b*. *Iodide of Ethyl Inhalations.*

Iodide of Ethyl by inhalation is highly praised by MR. LEE, *of Paris, as beneficial in asthma. It may be obtained in thin glass capsules.*

262. *Atomized Fluids for Inhalation.*

The following drugs may be used in the form of spray or inhalation. The dose mentioned is to be added to one ounce of water :—

Acidum Carbolicum	grs. 1 to 2
Acidum Sulphurosum	fl. drs. 2 to 8
Acidum Tannicum .	grs. 3 to 12
Alumen Exsiccatum	grs. 3 to 20
Aqua Laurocerasi .	min. 5 to 20
Aqua Picis . .	fl. drs. 1 to 2
Ammonii Chloridum	grs. 2 to 60
Argenti Nitras . .	grs. 1 to 3
Borax	grs. 5 to 20
Creasoti	min. 2
Extractum Belladonnæ	gr. $\frac{1}{4}$ to 1
Extractum Cannabis Indicæ	gr. $\frac{1}{4}$ to 1
Extractum Conii .	grs. 5 to 10
Extractum Opii . .	gr. $\frac{1}{4}$ to 2
Ferri et Ammonii Sulphas	grs. 3 to 6
Hydrargyri Perchloridum	gr. $\frac{1}{16}$ to $\frac{1}{8}$
Liquor Arsenicalis .	min. 3 to 8
Liquor Calcis Saccharatus	fl. drs. 1 to 4
Olei Pini Sylvestris .	min. 5
Oleum Terebinthinæ	min. 1 to 5
Potassii Bromidum .	grs. 2 to 10
Potassii Chloras . .	grs. 5 to 10
Potassii Iodidum .	grs. 2 to 10
Potassii Permanganas	grs. 2 to 4
Sodii Chloridum . .	grs. 5 to 40
Tinctura Benzoini Co.	min. 3
Tinctura Ferri Perchloridi . . .	min. 5 to 30
Tinctura Iodi . .	min. 1 to 15
Tinctura Opii. . .	min. 3 to 20
Zinci Sulphas . . .	grs. 3 to 15

The best instruments for dispersing the finest spray are—Dr. Siegle's, in which steam is applied as the dispersing medium : a modification of this apparatus, made by Krohne and Sesemann : numerous forms of handball spray-producers are sold by medical instrument makers.

Atomized medicated fluids may be advantageously used in affections of the lining membrane of the nose, mouth, and fauces. In croup and diphtheria : Syphilitic affections of palate and throat : Laryngitis : Tonsillitis : Œdema of the glottis : Tubercular or syphilitic ulcerations of larynx : Hoarseness and loss of voice : Whooping cough : Asthma : Hæmoptysis : Bronchitis : Phthisis. During their application the patient should make deep and long inspirations and expirations. Except in acute cases one application daily will suffice. In addition to the drugs mentioned above, plain warm water may be used, or lime water, liquor chlori, or salicylic acid in solution, or the undiluted sulphurous acid (in diphtheria).

Natural pulverized mineral waters are largely used, especially on the Continent, for the treatment of chronic diseases of the air passages. At Marlioz, Aix-les-Bains, Royat, Ems, &c., there are rooms (salles d'inhalations) charged with clouds of atomized water, and fitted with spray producers for directing the spray to any part of the respiratory tract.

XIII. LOTIONS, LINIMENTS, COLLYRIA, AND OINTMENTS.

263. *Hydrocyanic Acid Lotions.*

℞. Acidi Hydrocyanici Diluti, fl. drs. 3; Plumbi Acetatis, gr. 60; Spiritûs Rectificati, fl. oz. 1; Aquam Sambuci, ad fl. oz. 8. Mix. *In impetigo, prurigo, &c.*

℞. Liquoris Potassæ, fl. drs. 2; Acidi Hydrocyanici Diluti, fl. drs. 1½; Glycerini, fl. oz. 1; Aquam Rosæ, ad fl. oz. 8. *In some cases of pityriasis.*

℞. Liquoris Ammonii Acetatis, fl. oz. 1; Acidi Hydrocyanici Diluti, fl. drs. 1½; Infusum Tabaci, ad fl. oz. 8. Mix. To be sponged twice or thrice daily over the seat of irritation. *In pruritus about the anus, vulva, &c.*

℞. Hydrargyri Perchloridi, gr. 3; Acidi Hydrocyanici Diluti, fl drs. 2; Misturam Amygdalæ, ad fl. oz. 8. Mix. *To check irritation in prurigo and other skin diseases of limited extent.*

264. *Astringent Lotions.*

℞. Glycerini, fl. oz. 1; Liquoris Plumbi Subacetatis, fl. drs. 2; Spiritûs Rectificati, fl. drs. 4; Aquam Rosæ, ad fl. oz. 8. Mix. *In eczema, ecthyma, pityriasis, &c.*

℞. Zinci Sulphatis, gr. 16; Spiritûs Rosmarini, Tincturæ Lavandulæ Compositæ, āā fl. drs. 2; Aquam, ad fl. oz. 8. Mix. *The common "Red Lotion" of Hospitals. Very useful for strumous and other ulcers.*

℞. Potassii Chloratis, gr. 80; Aquæ, fl. oz. 8. Mix. *For many ill-conditioned ulcers.*

℞. Acidi Citrici, gr. 120; Aquæ, fl. oz. 8. Mix. *For cancerous sores. Also as a gargle in cancer of the tongue or tonsil. It relieves pain, and encourages cicatrization.*

265. *Anodyne Lotions.*

℞. Tincturæ Aconiti, fl. drs. 12; Aquam, ad fl. oz. 4. Mix. *In acute superficial pain, hyperæsthesia of skin, gout, pruritus, &c.*

℞. Tabaci Communis (Bird's-eye tobacco), gr. 120; Aquæ Bullientis, O. 1. Infuse for an hour, and strain. *To be freely used in pruritus of the vulva or anus.*

℞. Tincturæ Belladonnæ, fl. oz. 1; Spiritûs Chloroformi, fl. oz. 2; Aquam, ad fl. oz. 8. Mix.

℞. Extracti Belladonnæ, gr. 120; Glycerini, fl. oz. 1. Mix. *To be painted over the seat of pain in neuralgic diseases, and in limited inflammations.* The mixture is to be made of double the strength, if required as an application to the breasts to check the secretion of milk.

265*a*. *Chloral Lotion.*

℞. Chloral Hydratis, drs. 4; Aquæ Ferventis, fl. oz. 16. Dissolve, apply the hot solution on Spongio-piline to the seat of pain. *Useful in various neuralgias.*

265*b*. *Chloral Camphor.*

℞. Chloral Hydratis, fl. drs. 4; Camphoræ, fl. drs. 4. Rub together till a clear liquid results. *To be painted over the painful part in neuralgia.*

266. *Alkaline and Anodyne Lotion.*

℞. Liquoris Morphinæ Hydrochloratis, fl. oz. 1½; Liquoris Potassæ, fl. drs. 2; Glycerini, fl. oz. 1; Aquæ Laurocerasi, fl. oz. 1; Aquam Sambuci, ad fl. oz. Mix. *For the relief of pruriginous affections.*

267. *Acid and Anodyne Lotion.*

℞. Acidi Acetici, fl. drs. 1½; Morphinæ Acetatis, gr. 10; Vini Colchici, fl. oz. 3. Mix. *To be applied over the inflamed joint in gout, on a piece of lint covered with oiled silk.*

268. *Borax or Soda, and Glycerine Lotions.*

℞. Boracis, gr. 60—120; Glycerini, fl. oz. 1; Aquæ Sambuci, fl. oz. 7. Mix. *An excellent local palliative in many of the squamous diseases of the skin.*

℞. Boracis, gr. 200; Morphinæ Hydrochloratis, gr. 10; Glycerini, fl. oz. 1; Aquæ Rosæ, fl. oz. 7. Mix. *In obstinate pruritus of the vulva. The parts to be sponged twice or thrice in the twenty-four hours with this lotion, previously washing them with glycerine (or honey) soap and warm water.*

℞. Sodii Carbonatis, gr. 128; Aquæ Sambuci, fl. oz. 7; Glycerini, fl. oz. 1. Mix. *To allay the itching attendant on many skin diseases. healing ulcers, &c.*

269. *Iodine Lotions.*

℞. Tincturæ Iodi, fl. oz. 1; Glycerini, fl. drs. 12; Aquam, ad fl. oz. 8. Mix. *For indolent and scrofulous ulcers, &c.*

℞. Linimenti Iodi, fl. oz. drs. 4; Tincturæ Aconiti, fl. oz. 1; Aquam, ad fl. oz. 8. Mix. *In some cases of chronic peritonitis; chronic pleurisy with effusion; chronic effusions into joints, &c.* See F. 81.

270. *Creasote or Carbolic Acid, and Glycerine.*

℞. Creasoti, min. 35; Glycerini, fl. drs. 12; Aquam, ad fl. oz. 7. Mix, for a lotion. *In pityriasis, &c.*

℞. Acidi Carbolici, gr. 100; Glycerini, fl. oz. 1; Aquæ, fl. oz. 7. Mix, for a lotion. *In parasitic and pruriginous affections.*

℞. Glycerini Acidi Carbolici, fl. oz. 1; Aquæ, fl. oz. 5. Mix. The affected part to be sponged with the lotion three or four times in the twenty-four hours. *In all parasitic skin diseases.*

271. *Corrosive Sublimate Lotions.*

℞. Hydrargyri Perchloridi, gr. 10; Ammonii Chloridi, gr. 60; Acidi Hydrocyanici Diluti, min. 100; Liquoris Morphinæ Hydrochloratis, fl. oz. 2. Mix. Label,—"One teaspoonful to be added to a wineglassful of water to form a lotion." *In pruritus of the vulva or anus.*

℞. Hydrargyri Perchloridi, gr. 4; Acidi Nitrici Diluti, min. 30; Spiritûs Rectificati, fl. drs. 4; Aquam Sambuci, ad fl. oz. 8. Mix and label,—"To be sponged upon the spots and rough surfaces night and morning." *In chloasma, some forms of acne, &c.*

Sublimate lotions are more used in surgery and midwifery than any other antiseptic. A convenient concentrated form is the following :—

℞. Hydrargyri Perchloridi, gr. 154 ; Glycerinæ, fl. oz. 2. Mix. A fluid drachm in a pint of water makes a lotion of strength 1 in 1000 Sublimate vaseline should contain gr. 2 in oz. 1.

272. *Sulphurous Acid and Sulphocyanide Lotion.*

℞. Acidi Sulphurosi, fl. oz. 2 ; Aquæ, fl. oz. 6. Mix. *In skin diseases dependent on a parasitic plant.*

℞. Acidi Sulphurosi, Glycerini, āā fl. oz. 1. Mix. *In ringworm, favus, and for the destruction of parasitic lichens, chloasma, &c.* Should be painted over the affected parts.

272*a*. *Hyposulphite of Soda Lotion.*

℞. Sodii Hyposulphitis, gr. 100 ; Aquæ, fl. oz. 4. Dissolve. *In Chloasma.*

272*b*. *Thymol Lotion.*

℞. Thymol, min. 30 ; Chloroformi, fl. drs. 2 ; Oleum, ad fl. oz. 1. Mix, to form a lotion. *Has been recommended for tinea.*

273. *Cold Lotions.*

℞. Liquoris Ammonii Acetatis, fl. oz. 1 ; Spiritûs Rectificati, fl. oz. 2 ; Aquæ Rosæ, fl. oz. 5. Mix. *As an evaporating lotion in inflammation of the membranes of the brain, may be applied after the scalp has been shaved, but not so good as the ice-cap.*

℞. Ammonii Chloridi, oz. ½ ; Spiritûs Rectificati, fl. oz. 1 ; Acidi Acetici Diluti, fl. drs. 12 ; Aquam, ad fl. oz. 8. Mix.

274. *Absorbent Powders.*

℞. Zinci Oxidi, *vel* Pulv. Amylum Oryzæ. *In moist skin eruptions.*

275. *Hydrastis Lotion.*

℞. Tincturæ Hydrastis, fl. dr. 1 ; Aquæ, fl. oz. 8. Mix, to form a lotion. *Useful for piles, prolapsus ani, sore nipples, chronic inflammation of mucous membrane, and chronic indolent ulcers.*

275*a*. *Hamamelis Lotion.*

℞. Tincturæ Hamamelis, fl. dr. 1 ; Aquæ, fl. oz. 3. Mix. To be injected into the rectum daily. *Very useful for piles.*

276. *Mercurial Liniments.*

℞. Linimenti Hydrargyri, fl. oz. 2 ; Linimenti Belladonnæ, Linimenti Opii, āā fl. oz. 1. Mix. *In syphilitic tubercles, nodes, &c.*

℞. Hydrargyri Perchloridi, gr. 6 ; Acidi Nitrici Diluti, min. 90 ; Aquæ Laurocerasi, fl. drs. 2 ; Glycerini, fl. oz. 1 ; Aquam, ad fl. oz. 8. Mix. *To be used every night in cases of chloasma, syphilitic nodes and eruptions, &c.*

℞. Unguenti Hydrargyri, oz. 1 ; Glycerini, fl. oz. 1 ; Iodi, gr. 120 ; Olei Olivæ, fl. oz. 2. Mix. *To be gently rubbed over syphilitic nodes.*

277. *Rubefacient Liniment.*

℞. Pulveris Capsici, gr. 30; Olei Myristicæ, min. 30; Linimenti Terebinthinæ, fl. oz. 3; Linimenti Camphoræ Compositi, fl. oz. 5. Mix. *As a liniment to the chest in some cases of bronchitis.*

278. *Stimulating Liniment.*

℞. Linimenti Saponis, Linimenti Opii, Linimentæ Camphoræ Compositi, āā fl. oz. 1; Tincturæ Arnicæ, fl. drs. 2. Mix. *To be applied round the throat, on a strip of flannel, in subacute tonsillitis, common sore throat, &c.*

279. *Camphor Liniment and Opium, &c.*

℞. Linimenti Camphoræ Compositi, fl. oz. 2; Tincturæ Opii, Tincturæ Belladonnæ, āā fl. drs. 4. Mix. *To be rubbed over the scrobiculus cordis to check obstinate nausea and vomiting, pain, &c.*

280. *Iodide of Potassium Liniment.*

℞. Potassii Iodidi, *vel* Ammonii Iodidi, gr. 40; Aquæ, fl. drs. 4. Mix, and add—Glycerini, fl. oz. 1. *Useful in some glandular enlargements, as well as for dispersing the chalkstones of gout.*

281. *Belladonna and Aconite Liniment.*

℞. Linimenti Belladonnæ, Linimenti Aconiti, āā fl. drs. 4; Linimenti Camphoræ Compositi, fl. oz. 3. Mix. The seat of pain to be rubbed with this liniment for ten minutes at bedtime. *In pleurodynia, chronic rheumatism, and painful nervous affections.*

For the same class of cases a good liniment may be made with one part of belladonna liniment, one of opium liniment, and four of turpentine liniment.

℞. Linimenti Belladonnæ, fl. drs. 3; Glycerini, fl. drs. 5; Linimenti Saponis, fl. oz. 2. Mix. The spine to be rubbed with this liniment night and morning for five minutes. *In whooping cough.* May be used for a child five years old.

282. *Chloroform, Belladonna, and Aconite Liniment.*

℞. Linimenti Chloroformi, Linimenti Aconiti, Linimenti Belladonnæ, Linimenti Opii, āā fl. drs. 4; Linimenti Saponis, fl. oz. 2. Mix. To be rubbed into the painful part night and morning. *In neuralgic and rheumatic pains of great severity.*

283. *Cod Liver Oil Embrocations.*

℞. Olei Morrhuæ, fl. drs. 14; Spiritûs Ammoniæ Aromatici, fl. oz. 1; Tincturæ Opii, fl. drs. 2; Olei Lavandulæ, min. 30. Mix. One-half to be well rubbed over the chest and abdomen, night and morning. *In phthisis and other cases where the use of cod liver oil is indicated, but where the stomach will not bear it, and in tabes mesenterica.*

℞. Olei Morrhuæ, fl. oz. 1; Olei Cajuputi, fl. dr. 1. Mix. To be rubbed over the chest at bedtime. *The cajuput oil well disguises the smell of this embrocation.*

284. *Caoutchouc Solution.*

Take some thin pieces of india rubber, or of gutta percha, and dissolve them in chloroform. A good protective solution. *To be painted over superficial excoriations, threatened bed sores, &c.*

285. *Collodium Paints.*

A good artificial cuticle, which when spread on the skin will not crack, may be formed by mixing two parts of glycerine with one hundred of collodion.—The officinal COLLODIUM FLEXILE consists of one fluid drachm of castor oil, one hundred and twenty grains of Canada balsam, and 6 fluid ounces of collodion.—*Either preparation may be used as a varnish in various cutaneous affections, excoriations, or superficial burns.* DR. RICHARDSON'S "Styptic Colloid" may be used in the same way.

℞. Collodii Flexilis, fl. drs. 4; Morphinæ Acetatis, gr. 5—20. Mix. *To be painted over the course of the affected nerve in neuralgia.*

286. *Glycerine and Lime Water, &c.*

℞. Glycerini, fl. oz. 1; Pulveris Tragacanthæ Compositi, gr. 120; Mellis Depurati, gr. 120; Liquoris Calcis Saccharati, fl. oz. 1½; Misturam Amygdalæ, ad fl. oz. 8. Mix. *A good bland embrocation in cases of herpes, superficial burns, chapped hands, excoriations, &c.*

The officinal LINIMENTUM CALCIS, consisting of equal parts of olive oil and lime water, is also useful in some of the above-mentioned cases. Two drachms of Oleum Lavandulæ, added to twenty ounces of Carron oil, makes an elegant and efficacious application for dandriff of head. For chapped hands the GLYCERINE OF STARCH is an excellent preparation.

℞. Linimenti Aconiti, fl. drs. 2; Linimenti Calcis, fl. drs. 10. Mix. *In vulval pruritus.*

℞. Acidi Carbolici, gr. 60—120; Linimenti Calcis, fl. oz. 8. Mix. *To prevent suppuration in burns, &c.*

286*a*. *Soda Lotion for Burns.*

A saturated solution of Bicarbonate of Soda in cold water (about 35 grains to the ounce) *has often proved successful in the treatment of burns and scalds. It is said to allay the pain very rapidly. Lint thoroughly wetted with the saturated solution should be kept constantly on the injured part.*

287. *Ammonia and Catharides, &c.*

℞. Spiritûs Ammoniæ Aromatici, Spiritûs Rosmarini, āā fl. oz. 1; Tincturæ Cantharidis, fl. drs. 3—6; Aquam Rosæ, ad fl. oz. 8. Mix. *To be gently brushed into the scalp night and morning, when the hair is falling off after fever or any severe illness.*

A more elegant embrocation may be made by adding two fluid drachms of Tincture of Cantharides to two ounces of Eau de Cologne.

℞. Balsami Tolutani *vel* Peruviani, gr. 120; Olei Rosmarini, min. 20; Tincturæ Cantharidis, fl. drs. 4; Olei Ricini, fl. oz. 1; Adipis Præparati, oz. 1. Mix. *A valuable pomade in cases of baldness following ringworm, pityriasis, or tinea decalvans. It should be brushed into the scalp night and morning.*

288. *Sulphate of Atropia.*

℞. Atropinæ Sulphatis, gr. 1; Aquæ Destillatæ, fl. drs. 4. Mix. *Dilatation of the pupil is effected most speedily and is longest maintained by a solution of this kind. A full drop must be placed in the eye by means of a camel's-hair pencil: the effect will be produced in from fifteen to twenty minutes, and will sometimes continue for seven or eight days.*

Discs of gelatine impregnated with atropine and lamellæ cocainæ, (B.P.). These discs dissolve and act very efficiently when placed in contact with the moist conjunctiva. A piece, one-fifth of an inch square, contains as much of the Sulphate of Atropine as a drop of the solution of two grains to the ounce of water. Such discs, dissolved in water, are also very convenient for hypodermic injections.

288*a*. *Homatropine.*

Homatropine is obtained by chemical processes from atropine. It very rapidly and powerfully paralyses the accommodation and dilates the pupil. It has the special advantage that both effects pass away much more rapidly than when atropine is used. The solution used for instillation into the eye is a watery solution of four grains to the fluid ounce.

289. *Duboisia.*

℞. Guttæ Duboisinæ Sulphatis (B.P.). One or two drops to be placed in the eye. *Duboisia is a more powerful mydriatic than belladonna, and rapidly paralyses accommodation. An alkaloid, "Duboisine" has been prepared from it, which bears a very strong resemblance to atropine. Solutions of Duboisine, of the strength of four grains to the ounce, are powerfully mydriatic, but have on several occasions produced unpleasant toxic symptoms.*

290. *Sedative Collyria.*

℞. Cocainæ Hydrochloratis, gr. 2; Aquæ Destillatæ, fl. oz. 1. Mix. *Vel* Guttæ Atropineæ Sulphatis (B.P.).

291. *Astringent Collyria.*

℞. Zinci Sulphatis, gr. 2—4; *vel* Aluminis Exsiccati, gr. 1—4; *vel* Acidi Borici, gr. 4—8; *vel* Quininæ Sulphatis, gr. 3; *vel* Boro-glyceridæ (Barff's) drs. 1½; *vel* Cupri Sulphatis, gr. 1—4; *vel* Argenti Nitratis, gr. 1—4; Aquæ Destillatæ, fl. oz. 1. Mix.

℞. Zinci Oxidi, gr. 60; Aquæ Rosæ, fl. oz. 8. Mix. *For an eye water, to be used night and morning.*

292. *Eserine.*

℞. Eserinæ Sulphatis, gr. 2; Aquæ Destillatæ, fl. oz. 1. Dissolve, *For instillation into the eye. Eserine causes contraction of the pupil and spasm of accommodation. It is invaluable in some cases of glaucoma and in some corneal ulcers.*

293. *Iodide of Lead Ointments.*

℞. Plumbi Iodidi, gr. 60; Unguenti Atropinæ, gr. 60—120 (each ounce contains eight grains of the alkaloid); Unguenti Simplicis, ad oz. 1. Mix. *In some malignant indurations.*

℞. Plumbi Iodidi, gr. 90; Unguenti Cetacei, oz. 1; Linimenti Belladonnæ, *vel* Linimenti Aconiti, fl. drm. 1. Mix. *For malignant and painful strumous ulcers.*

293*a*. *Soothing Lead Ointment.*

℞. Olei Olivæ, fl. drs. 4; Lithargyri, drs. 3; Adipis, drs. 2; Ceræ Flavæ, dr. 1. Mix, to form an ointment. *Excellent for eczema. A modification of* HEBRA'S *Unguentum Diachyli.*

294. *Sulphate of Zinc Ointment.*

℞. Zinci Sulphatis Exsiccatæ, gr. 120; Unguenti Simplicis, oz. 1. Mix. *Very useful in some forms of lupus, rodent ulcer, &c. The officinal* ALUMEN EXSICCATUM *may be employed in the same cases.*

295. *Tar and Citrine Ointment.*

℞. Unguenti Picis Liquidæ, oz. 1½; Unguenti Cetacei, oz. 1; Unguenti Hydrargyri Nitratis, oz. ½. Mix. *In lepra, psoriasis, chronic eczema, &c.*

296. *Aconitine Ointment.*

℞. Unguenti Aconitinæ, oz. ¼ (—to grs. 2 of the alkaloid); Unguenti Hydrargyri Subchloridi, oz. 1—2. Mix. *In some forms of neuralgia.*

℞. Unguenti Aconitinæ, gr. 120. *In severe neuralgia. A small portion is to be painted over the nerve, but it must not be used where there is the slightest abrasion.*

297. *Belladonna and Opium.*

℞. Extracti Belladonnæ, Extracti Opii, āā gr. 60; Aquæ Laurocerasi, fl. drs. 4; Extracti Papaveris, oz. 3. Mix. *To be painted over the seat of inflammation in pleurisy, peritonitis, gout, gastric disease, &c. A fomentation flannel, or hot linseed poultice, or wet compress is to be applied, being separated from the extracts by a sheet of tissue paper.*

℞. Extracti Belladonnæ, gr. 120; Extracti Papaveris, oz. 2; Syrupi Papaveris, fl. oz. 1. Mix and label,—"To be painted over the seat of pain, which is then to be covered with water dressing or a bread-and-water poultice. Poison." *For inflammation of the absorbents, lymphatic glands, gallstone disease, peritonitis, &c.*

298. *Mercurial and Belladonna Ointment.*

℞. Unguenti Hydrargyri, gr. 10; Unguenti Atropinæ, gr. 30. *For relieving cases of severe nocturnal pain around the orbit; it is to be rubbed into the temple just before the pain may be expected.*

℞. Linimenti Belladonnæ, fl. drs. 2; Unguenti Hydrargyri Subchloridi, oz. 1. Mix. *In syphilitic tubercular diseases.*

299. *Oleate of Mercury.*

℞. Hydrargyri Oxidi Flavi, drs. 2; Acidi Oleici, fl. drs. 10. Dissolve, by the aid of a heat of 300° Fahr. *Recommended by* Mr. MARSHALL *of University College as a substitute for the ordinary blue ointment for inunction in syphilis.*

℞. Hydrargyri Oxidi Flavi, dr. 1; Acidi Oleici, fl. drs. 10. Dissolve and add Morphinæ, gr. 10. The pure alkaloid must be used. *For chronic inflammations of joints, &c.*

℞. Hydrargyri Oxidi Flavi, dr. 1; Acidi Oleici, fl. drs. 10. Dissolve and add Ætheris, fl. drs. 10. *For parasitic diseases of the skin.*

℞. Hydrargyri Oxidi Flavi, gr. 1; Vaseline, dr. 1. (Syn. Pagenstecher's Ointment.) *In corneal ulceration.*
Atropine, gr. ¼, may be added to this if there is photophobia.

299*a*. *Salicylic Acid Ointment.*

℞. Acidi Salicylici, dr. 1; Vaseline, oz. 1. Mix, to form an ointment. *Excellent for tinea, eczema, psoriasis.*

The salicylic and creasote plaster mulls, recommended by Unna, are valuable in horny skin eruptions.

299*b*. *Boracic Acid Ointment.*

℞ Acidi Borici, dr. 1; Ceræ Albæ, dr. 1; Adipis Preparati, drs. 2; Olei Amygdalæ, drs. 2. Mix, to form an ointment.

℞. Acidi Borici, drs. 3; Vaseline, drs. 5; Paraffini, drs. 10. Mix. *Antiseptic ointment for wounds, and useful in some skin diseases.*

300. *Carbolic Acid Ointment.*

℞. Acidi Carbolici, gr. 25--40; Unguenti Zinci, oz. 3. Mix. *As a dressing for irritable sores or burns or skin eruptions with offensive discharges.*

301. *Creasote and Red Oxide of Mercury.*

℞. Creasoti, min. 10; Unguenti Hydrargyri Oxidi Rubri, gr. 120; Unguenti Simplicis, gr. 360. Mix. *In parasitic diseases of the skin, the ulcerations of rupia, &c.*

302. *Red Iodide of Mercury Ointment.*

℞. Hydrargyri Iodidi Rubri, gr. 8; Unguenti Simplicis, oz. 1. Mix. *In chronic glandular tumours, a small portion rubbed in every night proves very useful. The officinal ointment is double the strength of the foregoing, and hence it causes pain and blistering.*

303. *Croton Oil and Lard.*

℞. Olei Crotonis, min. 15; Adipis Preparati, oz. ½. Mix. One-fourth part to be rubbed into the skin every eight hours, until an abundant pustular eruption is produced. *Useful as a counter-irritant.*

304. *Chrysophanic Acid Ointment.*

℞. Acidi Chrysophanici, gr. 10—20; Adipis, oz. 1. Mix. *It is apt to stain the surrounding skin purplish-red, the affected spots themselves become dull-white. It also stains the linen, but such stains may be removed by benzole or bleaching powder, if no soap or alkali have been used. For Psoriasis. Chrysophanic acid ointment has also been recommended for Tinea Tonsurans, but must be used cautiously. Of late the internal use of Chrysophanic Acid in psoriasis has been recommended. The dose at first should be half a grain, cautiously increased. It may be made into powders with sugar or milk, or into a pill with bread crumbs.*

305. *Diluted Citrine Ointment.*

℞. Unguenti Hydrargyri Nitratis, gr. 60; Unguenti Cetacei, oz. 1. Mix. *As a stimulant and alterative in chronic skin diseases. May be applied to the edges of the eyelids in ophthalmia to prevent their adhering at night.*

306. *Compound Spermaceti Ointments.*

℞. Acidi Hydrocyanici Diluti, fl. dr. 1; Unguenti Atropinæ, gr. 120; Unguenti Cetacei, oz 1. Mix. *In cutaneous diseases attended with pain and itching.*

℞. Balsami Peruviani, dr. 1; Unguenti Cetacei, oz. 1. Mix. *In slight excoriations.*

307. *Belladonna and Iodide of Potassium.*

℞. Linimenti Belladonnæ, fl. drs. 2; Unguenti Potassii Iodidi, oz. 1. Make an ointment. The Liniment of Aconite may be substituted for the Belladonna, if desired. *In painful chronic tumours, neuralgia, &c.*

308. *Iodine and Cod Liver Oil Ointment.*

℞. Unguenti Iodi, Olei Morrhuæ, āā fl. drs. 4. Mix. *Useful when rubbed upon the throat in bronchocele; as well as when applied to strumous glands, unsuppurating buboes, and the tumid bellies of children with tubercular disease of the abdomen.*

309. *Iodoform Ointment.*

℞. Iodoformi, grs. 30—60; Vaseline, oz. 1. Mix, to form an ointment. *Iodoform is an admirable remedy for chronic ulcers and sores, especially for those of a scrofulous or syphilitic nature. It may be used in the form of ointment, or iodoform itself may be sprinkled occasionally over the raw surface, and boracic ointment applied. If Ol. Eucalypti fl. dr. 1 be added to this, it forms the best possible antiseptic grease for uterine and vaginal diseases and dressings.*

310. *Compound Sulphur Ointments.*

℞. Unguenti Creasoti, Unguenti Sulphuris, āā oz. ½. Mix. *In pityriasis, and some other chronic cutaneous affections.*

℞. Sulphuris Iodidi, gr. 12; Unguenti Simplicis, oz. 1. Mix. *In acne, applied thrice daily.* The officinal iodide of sulphur ointment is one-third stronger.

℞. Sulphuris Iodidi, gr. 12; Sulphuris Præcipitati, gr. 20; Olei Amygdalæ Amaræ, min. 5; Adipis Præparati, oz. 1. Mix.

℞. Unguenti Hydrargyri Ammoniati, gr. 120; Unguenti Sulphuris gr. 360. Mix. *A good antiparasitic ointment.*

311. *Bismuth and Morphia Ointment.*

℞. Bismuthi Subnitratis, oz. 1; Morphinæ Acetatis, gr. 6; Adipis Benzoati, oz. 3. Mix. *For irritable ulcers and eruptions, piles, &c.*

312. *Storax Ointment.*

℞. Styracis, fl. oz. 1; Spiritûs Rectificati, fl. drs. 2. Mix, and add Olei Olivæ, fl. dr. 1. *A pleasant substitute for sulphur ointment in the treatment of scabies. Peruvian Balsam is also a good application for the same affection.*

℞. Styracis, fl. drs. 2; Unguenti Simplicis, oz. 1.

312*a*. *Staphisagria Ointment.*

℞. Olei Staphisagriæ, fl. dr. 1; Adipis, oz. 1. Mix, to form an ointment. *Useful to destroy pediculi and to cure prurigo senilis.*

XIV. NARCOTICS AND SEDATIVES.

313. *Anæsthetics.*

The chief Anæsthetics which have hitherto been used in the practice of medicine are chloroform, ether, and nitrous oxide. As the employment of one or other of these agents is often indicated in calculous nephralgia, gallstone, colic, some cases of cancer, neuralgia, maniacal delirium, convulsions, the paroxysmal dyspnœa of infantile laryngismus and diphtheria and croup, as well as in spasmodic diseases generally, a few words on their mode of administration may not be out of place.

The principal advantages of inhalation are these :—That by means of the immense surface offered by the air-cells of the lungs for absorption, a deeper and more rapid effect is induced than it would be safe or easy to effect by other means. At the same time, the digestive functions are less interfered with than when narcotics are given in the ordinary way.

In every form of inhalation (with the exception of the nitrous oxide, ether, and perhaps of the bichloride of methylene) the anæsthetic should be freely diluted with common air, and no attempt made to produce rapid narcotism ; while the breathing ought to be allowed to go on quietly and naturally. The patient should be tranquil, fearless, and usually in the recumbent posture. If false teeth are worn, they are to be removed ; since if there be any struggling, or sicknesss, or cough, the plate may become separated from the gums and be drawn into the pharynx, or may get to the back of the fauces and produce asphyxia by pressing on the glottis. And then the administrator of the narcotic agent, while watching the respiration and the countenance, had better also keep his finger on the pulse. For if the breathing becomes stertorous, or if it stop, or if it appear difficult and the pupils become widely dilated, or if there is evidence that the circulation is getting weak and faltering, the inhalation must be completely suspended ; while, if more serious symptoms follow, the body should be gently and gradually turned over to the left side, so as to allow of the region of the heart and the left side of the face resting upon the couch, or the head should be lowered and the heels raised by tilting up the operating table. Drawing the chin away from the sternum so as to flex the head backward at once relieves stertor.

Chloroform was introduced into practice by SIR JAMES Y. SIMPSON, of Edinburgh, in November 1847. The vapour of this hot, sweet, heavy liquid may be inhaled by individuals of all ages, from infants under one year to persons as old as ninety ; and in almost all states of the system. The exceptional cases which preclude its employment, at all events in medical practice, are instances of marked blood-poisoning, of far advanced cardiac or pulmonary or cerebral disease, and perhaps of habitual drunkenness. It may be administered from an apparatus or a simple napkin folded into the shape of a funnel. A crumpled handkerchief in a tumbler forms a convenient inhaler ; or a still more convenient inhaler is formed by a piece of lint made into a cone, upon the apex of which the chloroform can be dropped as required. MR. CLOVER employs a bag containing an admixture of air and chloroform vapour in definite proportion, and Junker's inhaler is probably the best of all. But in whatever way it is exhibited care must be taken that it does not come into contact with the lips and nose ; since it produces painful excoriations. Chloroform should also be given slowly and cautiously ; and it acts best before breakfast, or when the patient's stomach is empty. If administered immediately after food, sickness is sure to result. The proportion of vapour should not exceed three and a half per cent. As a general rule, however, in medical and obstetric cases it needs only to be used in a more diluted form.—When an overdose has been given, the patient should be made to inhale ether, as it counteracts the depressing action which chloroform exerts on the heart. Ether or brandy may be injected hypodermically, and nitrite of amyl inhaled if breathing continues. Or artificial respiration, performed in the manner to be presently described, may be resorted to; the success of which will depend upon the extent to which the respiratory nerve centres have been paralysed by the chloroform. When death occurs, it arises from the failure of the functions of respiration and circulation. Respiration generally ceases, and then the heart's action stops. DR. SNOW gave this anæsthetic in 4000 or more cases, with the loss of only one person while inhaling it; and amongst these were patients with heart disease, phthisis, and several who had suffered from apoplexy. It has been computed that during the Crimean war chloroform was administered 40,000 times, death resulting in only one case.

Ether (first used as an anæsthetic in September 1846, by DR. W. T. G. MORTON, of Boston, Massachusetts) is thought to be a safer agent for inducing narcotism than chloroform; but although it is so, still it must be given with caution. The disadvantages of ether are the longer time and large quantity of the agent required, the struggling excited, and the disagreeable irritation of the throat produced. About one fluid ounce is usually inhaled by an adult in becoming insensible; though not more than half this quantity is absorbed, the remainder being thrown back from the lungs. Some of the disadvantages may be avoided by first inducing insensibility by nitrous oxide and then giving ether to keep it up. An excellent anæsthetic for obstetric practice may be made with equal parts of ether and chloroform.

In October 1867, DR. RICHARDSON recommended the use of the *Bichloride of Methylene* as a general anæsthetic. It is much liked by some, but appears to be only an impure chloroform, over which it probably has no advantages.

The *Tetrachloride of Carbon* has been employed for producing anæsthesia during surgical operations, but is rarely used now.

The inhalation of *Nitrous Oxide* to prevent the pain of surgical operations was suggested by SIR HUMPHRY DAVY in 1799, when he ascertained that its respiration produced effects analogous to those caused by drinking fermented liquors—usually a transient intoxication, or violent exhilaration. The introduction of ether inhalation by DR. MORTON, in 1846, withdrew professional attention from the nitrous oxide. The latter has, however, again been introduced into practice, and is now being largely employed by dentists. DR. COLTON is said to have given it in twenty-eight thousand cases without an accident. The great advantages of this gas over other anæsthetics seem to be its safety; the fact that it induces insensibility in from 60 to 180 seconds; that the complete insensibility lasts for about half a minute; while in about a couple of minutes afterwards there is restoration to consciousness without any sickness or faintness. Nitrous oxide is inhaled undiluted with atmospheric air: when used mixed with air it causes a prolonged stage of exhilaration—whence it was known as "laughing gas."

An excellent anæsthetic, which has been very largely used by the Author, can be made by mixing equal parts of pure *Chloroform and Ether*. No special apparatus is required for its employment; though JUNKER'S inhaler or the flannel mask recommended by DR. SKINNER, with the drop bottle, will be found convenient. The only precaution necessary is that there should be no impediment to the free admission of air.—The Chloroform Committee of the Royal Medical and Chirurgical Society has recommended a mixture composed by measure of three parts of ether, two of chloroform, and one of alcohol. That this is safer than pure chloroform cannot be doubted; but it has seemed to the Author less useful than this agent with an equal quantity of ether.

In apparent death from any anæsthetic, *artificial respiration*, after the plan recommended by DR. SYLVESTER, ought to be tried. The body is to be laid on its back, with the head and shoulders slightly raised. The mouth and nostrils are to be cleansed from mucus; and the tongue should be drawn firmly forwards so as to keep the tip well protruded at the side of the mouth. It can be fixed there with an elastic band passed over the tongue and round the lower jaw. Then the operator is to compress, for two or three seconds, the front and sides of the chest by the patient's own arms. Thus the medicated vapour will be partly expelled from the lungs; while upon the pressure being suddenly removed, the elastic walls of the chest will expand, and give the primary impetus to respiration. To assist expansion to the utmost the ribs should be drawn upwards by means of the pectoral muscles. This is effected by the operator grasping the arms just above the elbows, and drawing them upwards until they nearly meet above the head. Then they must be lowered, and replaced at the sides; at the same time making moderate pressure with them, for a couple of seconds, against the chest walls. This process is to be repeated fifteen times in the minute. At the same time the face ought to be well fanned. No attempt should be made to administer stimulants by the mouth.

In some instances, galvanism of the phrenic nerve, diaphragm, and intercostal muscles would be useful in keeping up the movements of respiration; *one pole of the battery being applied over the outer edge of the sterno-mastoid muscle just above the clavicle, while the other is pressed deeply into the seventh intercostal space.* The diaphragm must be made to contract and relax alternately, by interrupting the currents at different intervals.

While attempts are thus being made to oxygenate the blood, an assistant is to rub the limbs from the extremities towards the heart. If no respiratory efforts supervene, the face and chest are to be dashed with cold water, or with hot and cold water alternately. When success follows this plan the temperature of the body must be maintained by friction, hot blankets, the warm bath, &c.

314. *Morphine, Atropine, &c., for Subcutaneous Injection.*

The Injectio Morphinæ Hypodermica (B. P.) is used for injection under the skin.

Each ten minims contains one grain of acetate of morphine. For first injections not more than one minim and a half should be used; as it is certain that this narcotic acts more powerfully when thus employed than when taken into the stomach. In diseases which are continuously painful, the ease given by an injection will last for about twelve hours. To relieve the suffering of advanced cancer, &c., the injection may be advantageously given, night and morning, for many months.

The subcutaneous injection of morphine often causes troublesome nausea and retching, which may continue for eighteen or twenty hours. This unpleasant result can be obviated, according to DR. JOHN HARLEY, by administering a small quantity of atropine ($\frac{1}{60}$ of a grain) with the morphine. A useful solution for general purposes is gr. ½ of Acetate of Morphine and gr. $\frac{1}{60}$ of Sulphate of Atropine to min. 10 of distilled water.

The subcutaneous injection of *Atropine* is sometimes useful in cases of intestinal obstruction, asthma, tetanus, neuralgia, chorea in the adult, &c. Great caution is necessary: not more than two minims of the officinal Liquor Atropinæ Sulphatis (= to gr. $\frac{1}{60}$) should be employed at first. During a severe paroxysm of asthma, the use of two minims of the Liquor Atropinæ mixed with the same quantity of the morphine solution will often produce satisfactory results. The good effect is increased in some cases by having recourse to this injection while the patient is unconscious from the inhalation of a mixture of ether and chloroform.

315. *Morphine Draughts, &c.*

℞. Liquoris Morphinæ Hydrochloratis, min. 20; Syrupi Limonis, fl. dr. 1; Tincturæ Hyoscyami, fl. dr. 1; Aquam Camphoræ, ad fl. oz. 1. Mix. To be taken at bedtime. *In insomnia with pain.*

℞. Liquoris Morphinæ Hydrochloratis, min. 15—30; Spiritûs Chloroformi, min. 20 (= to min. 1 of chloroform); Spiritûs Ætheris, min. 30; Tincturæ Belladonnæ, min. 20; Tincturæ Cardamomi Compositæ, fl. dr. 1; Aquam, ad fl. oz. 1½. Mix. To be taken every two hours (the patient being watched) until the pain ceases. *Useful in facilitating the passage of gallstones.*

℞. Liquoris Morphinæ Hydrochloratis, min. 40; Acidi Hydrocyanici Diluti, min. 20; Syrupi Scillæ, fl. drs. 6; Tincturæ Benzoini Compositæ, fl. oz. 1; Mucilaginem Acaciæ, ad fl. oz. 6. Mix. One tablespoonful every three or four hours. *In many irritable coughs.*

316. *Chloral Hydrate.*

℞. Chloral Hydratis, gr. 20—30; Syrupi Aurantii, fl. dr. 1½, Aquæ, fl. oz. 1. Mix. *A draught to be taken at bedtime.*

℞. Syrupi Chloralis, fl. drs. 1—2; Aquæ Cinnamomi, fl. oz 1. Mix. *A sleeping-draught.*

℞. Chloral Hydratis, gr. 15—20; Liquoris Morphinæ Hydrochloratis, min. 15—20; Syrupi Limonis, fl. dr. 1; Aquam, ad. fl. oz. 1. Mix. *An anodyne hypnotic draught.*

℞. Chloral Hydratis, dr. 1; Potassii Bromidi, dr. 1; Aquæ Camphoræ, fl. oz. 6. Mix. Two tablespoonfuls every three or four hours. *For a case of acute mania.*

℞. Chloral Hydratis, dr. 1; Syrupi, fl. drs. 4; Aquam Menthæ Piperitæ, ad fl. oz. 4. Mix. *A teaspoonful every three or every two hours for a case of whooping-cough in a child of two or three years old.*

Chloral Hydras is an excellent hypnotic, producing natural sleep, not followed by headache or nausea. For this purpose it is greatly superior to morphine, but it is a much less powerful anodyne. The two may often be combined with advantage. It must not be used for cases of heart-disease, as it is a decided cardiac depressant. Chloral Hydras is invaluable in whooping-cough, and very useful in acute mania and in the gravest cases of Chorea.

Bromide of Potassium also is a very effective hypnotic in certain conditions of the nervous system. See F. 41.

316*a*. *Croton-Chloral.*

℞. Butyl-Chloral Hydratis, gr. 30; Aquæ Menthæ Piperitæ, fl. oz. 6. Dissolve. Two tablespoonfuls to be taken three times daily, or every three hours. *Croton-Chloral has a special anæsthetic influence on the 5th nerve. It is often of great service in cases of facial neuralgia.*

316*b*. *Gelsemium.*

Gelsemium is an American drug which has proved very useful in the treatment of neuralgias, especially in neuralgia of the 5th nerve. It must be given with caution, as different persons are very differently affected by it. The dose usually ordered is 15 drops of the Tincture, every 3 hours until relief is obtained. The earliest toxic symptoms are frontal headache, ptosis, strabismus and double vision, with amblyopia. Large doses kill by asphyxia through paralysis of the respiratory centre.

316*c*. *Tonga.*

Tonga is a new drug, recently obtained from Fiji. A liquid extract is prepared by MESSRS. ALLEN AND HANBURY, *of which the dose is one fluid drachm. It has been found to give prompt and permanent relief in many severe cases of neuralgia.*

317. *Chloroform with Opium, or with Morphine and Indian Hemp.*

℞. Spiritûs Chloroformi, min. 10; Extracti Opii Liquidi, min. 15—30; Tincturæ Belladonnæ, min. 10—20; Syrupi Rhœados, fl. dr. 1; Mucilaginis Tragacanthæ, fl. oz. 1. Mix, for a night draught. *In severe colic, and other spasmodic disorders.*

℞. Liquoris Morphinæ Hydrochloratis, min. 20; Tincturæ Chloroformi Compositæ, min. 30; Tincturæ Cannabis Indicæ, min. 10; Pulveris Tragacanthæ Compositi, gr. 80; Spiritûs Ætheris, min. 40: Acidi Hydrocyanici Diluti, min. 4; Tincturæ Hyoscyami, min. 20; Aquam, ad fl. drs. 12. Mix, for a night draught. *In many chronic diseases attended with pain or restlessness.*

The medicine called CHLORODYNE probably consists essentially of chloroform, Indian hemp, morphine, and hydrocyanic acid. In the *Canada Lancet* (15 October, 1864) DR. W. E. BOWMAN gives the following formula for its preparation:—Take of Chloroform, half a fluid ounce; Sulphuric Ether, ninety minims; Oil of Peppermint, eight drops; Resin of Indian Hemp, six grains; Capsicum, two grains. Mix, shake occasionally, and allow it to stand for a few days. Take of Hydrochlorate of Morphine, sixteen grains, dissolved by the aid of heat in two fluid drachms of water; to which, when cold, add of Scheele's Hydrocyanic Acid, sixty-five minims; Perchloric Acid, one fluid drachm; Treacle, two fluid ounces. Add this gradually to the first mixture, and then make the whole measure four fluid ounces by the addition of treacle or water.—Each dose of thirty minims contains of Chloroform, min. 4, Ether, min. 1½, Extract of Hemp, gr. 1-10th, Hydrochlorate of Morphine, gr. ¼, and of Scheele's Acid, min. 1.

MR. SQUIRE gives for Chlorodyne a formula which contains no Indian Hemp or Capsicum, and a smaller dose of Morphine. MR. ED. SMITH assigns to it the following composition:—

℞. Chloroformi, fl. drs. 4; Morphinæ Hydrochloratis, gr. 20; Spiritûs Ætheris, fl. drs. 2; Ol. Menthæ Pip., min. 8; Acidi Hydrocyanici Dil., fl. drs. 4; Tinct. Capsici, fl. drs. 6; Mist. Acaciæ, fl. oz. 1; Theriacæ, fl. oz. 5.

318. *Brandy and Egg Mixture, with Opium.*

℞. Misturæ Spiritûs Vini Gallici (see F. 17) fl. oz. 1; Extracti Opii Liquidi min. 5—10; Spiritûs Chloroformi, min. 30. Mix. To be taken every four hours. *In exhaustion from pain.*

319. *Tolu and Camphorated Opium.*

℞. Tincturæ Tolutanæ fl. drs. 2; Syrupi Tolutani, fl. oz. 1; Tincturæ Camphoræ Compositæ, fl. drs. 4 (= to gr. 1 of opium); Mucilaginem Tragacanthæ, ad fl. oz. 8. Mix. Two tablespoonfuls three times a day. *For old people, where the mucous secretion from the bronchi is excessive.*

320. *Cimicifuga Racemosa, or Black Snakeroot.*

℞. Tincturæ Acteæ Racemosæ, min. 30—fl. dr. 1; Aquam, ad fl. oz. 1. Mix, for a draught. To be administered every three or four hours, until nausea ensues or the pulse becomes lowered. *This drug possesses narcotic and eliminative properties; and is useful in chronic rheumatism, lumbago, chorea, obscure nervous pains, and in backache from uterine disturbance.*

321. *American Hellebore.*

℞. Tincturæ Veratri Viridis, min. 5—10; Aquæ, fl. oz. 1. Mix. This draught may be given every three hours, adding one drop of tincture to each dose, until the pulse becomes sufficiently lowered or nausea is produced. The latter is readily counteracted by small doses of morphine. *It is a valuable cardio-vascular sedative: and is particularly used by American physicians in inflammations of the lungs, pleura, or peritoneum, and in acute rheumatism. One or two drops of the Tincture administered every hour relieves headache connected with menstruation.*

322. *Lobelia and Ether.*

℞. Spiritûs Ammoniæ Aromatici, fl. drs. 2; Tincturæ Lobeliæ Ætheræ, fl. drs. 3—6; Aquam Camphoræ, ad fl. oz. 8. Mix. One-sixth part twice or thrice daily. *As a sedative in some cases of asthma.*

323. *Stramonium and Henbane.*

℞. Extracti Stramonii, gr. 3; Extracti Hyoscyami, gr. 20; Extracti Lupuli, gr. 40; Mix, and divide into twelve pills. One to be taken every four hours until relief is obtained. *In chronic disorders attended with suffering, in diseases of the nervous system accompanied with pain and restlessness, and in the dyspnœa of phthisis and emphysema.*

℞. Tincturæ Stramonii, fl. drs. 1—2; Tincturæ Hyoscyami, fl. drs. 3—6; Spiritûs Chloroformi, fl. drs. 3; Aquam, ad fl. oz. 8. Mix. One-sixth part three times a day. *In some cases of asthma.*

324. *Opium and Ipecacuanha.*

℞. Extracti Opii, Pulveris Ipecacuanhæ, āā gr. 1; Potassii Nitratis, gr. 8; Glycerini, sufficient to make a mass. Divide into two pills, and order them to be taken at bedtime. *A good narcotic and diaphoretic. It is preferable to the officinal* COMPOUND POWDER OF IPECACUANHA, *as the nitrate of potash acts better than the sulphate.*

℞. Vini Ipecacuanhæ, fl. drs. 2½; Extracti Opii Liquidi, min. 30; Syrupi Tolutani, fl. drs. 5; Mucilaginis Tragacanthæ, fl. oz. 1. Mix. One teaspoonful every two or three hours. *In chronic cough.*

325. *Henbane, Camphor, and Hop.*

℞. Extracti Hyoscyami, gr. 40—60; Camphoræ, Lupulinæ, āā gr. 20. Mix, divide into eighteen pills, and order three to be taken every night at bedtime. *An excellent sedative for hysterical and hypochondriacal patients suffering from sleeplessness. Useful also in some forms of insanity.*

℞. Spiritûs Camphoræ, min. 10; Tincturæ Hyoscyami, Tincturæ Lupuli, āā min. 30; Mucilaginis Acaciæ, fl. oz. 1. Mix, for a draught to be taken at bedtime.

325*a*. *Monobromated Camphor.*

Monobromated Camphor has been introduced by DR. CLIN, *of Paris, as a nervine sedative of great value in severe chorea and hysteria. It has also been found of service in the convulsions of teething, and in chordee. The dose for an adult is five grains, best given in capsules (Clin's).*

325*b*. *Hydrobromic Acid.*

℞. Acidi Hydrobromici Diluti, min. 15—60; Syrupi Aurantii, fl. drs. 2; Aquam ad fl. oz. 2. Mix for a draught to be taken three times a day. *Recommended by* DR. FOTHERGILL *to prevent the tinnitus and other cerebral symptoms caused by quinine. Is said to counteract the congestive tendency of quinine.*

326. *Belladonna. Atropine.*

℞. Extracti Belladonnæ, gr. 5; Zinci Sulphatis, gr. 30; Extracti Gentianæ, gr. 90. Make a mass, divide into twenty pills, and order one to be taken three times a day. *In cases where a sedative and tonic action is to be produced. Especially useful in some diseases attended with irritability of the urinary organs. Also in many spasmodic coughs.* See F. 92.

℞. Extracti Belladonnæ, gr. ¼; Extracti Quassiæ, gr. 2. Mix into a pill, to be taken night and morning. *In epilepsy. Requires to be given for a long period.*

℞. Tincturæ Belladonnæ, min. 10—15; Spiritûs Ammoniæ Aromaticæ, min. 20; Aquæ, fl. oz. 1. Mix. To be taken three or four times a day. *In heart disease, with irritability and palpitation.*

℞. Camphoræ, gr. 5; Extracti Belladonnæ. gr. ⅓; Extracti Conii, gr. 4; Spiritûs Rectificati, sufficient to make two pills. To be taken every night at bedtime. *In spermatorrhœa; convulsions; as well as in certain spasmodic affections of the air passages.*

℞. Liquoris Atropinæ, fl. drs. 2. One drop (= gr. 1-120) in a tablespoonful of brandy and water, night and morning. *In epilepsy, and to check night sweats.* The dose to be increased by one drop every second or third week. A preparation of zinc may be given at the same time, if desired.

326*a*. *Hyoscyamine.*

Hyoscyamine is analogous to atropine in properties. It has given relief in various spasmodic conditions, as in gall-stone colic and in asthma, and in furious mania. Like atropine, it has been of service in fæcal obstruction. One grain of MERCK'S *crystallized hyoscyamine may be dissolved in two fluid drachms of rectified spirit. The dose of this is, one drop (=* $\frac{1}{120}$ *grain), given in dill water, or made into lozenges with sugar of milk.*

327. *Camphor, Opium, and Blue Pill.*

℞. Camphoræ, gr. 5; Extracti Opii, gr. 1; Pilulæ Hydrargyri, gr. 4. Mix, divide into two pills, and order them to be taken at bedtime. *In restlessness with congestion of the liver and irritability of the sexual organs. Also in venereal sores with nocturnal emissions.*

328. *Codeia and Assafœtida.*

℞. Codeiæ, gr. ½; Pilulæ Assafœtidæ Compositæ, gr. 5. Mix into a pill, to be taken every night at bedtime. *Especially useful in attacks of spasmodic cough, dyspnœa, &c. Codeia is also useful in diabetes, in doses of one or two grains.*

329. *Morphine and Assafœtida.*

℞. Morphinæ Hydrochloratis, gr. 2; Assafœtidæ, gr. 30; Camphoræ, gr. 20. Make a mass, divide into twelve pills, and order one to be taken at bedtime. *A good stimulant and antispasmodic.*

330. *Aconite with Guaiacum, Mercury, or Opium.*

℞. Tincturæ Aconiti, min. 20—40; Spiritûs Ætheris, fl. drs. 4; Misturæ Guaiaci, ad fl. oz. 8. Mix. One-sixth part every six hours. *As an anodyne, stimulant, and alterative in chronic rheumatism, neuralgia, &c.*

℞. Extracti Aconiti, gr. 1—3; Pilulæ Hydrargyri Subchloridi Compositæ, gr. 3. Make into a pill, and order it to be taken every night at bedtime. *In sleeplessness from a syphilitic taint.*

℞. Extracti Aconiti, Extracti Opii, āā gr. 8; Extracti Hyoscyami, gr. 16. Mix and divide into eight pills. One to be taken every four, six, or eight hours. *In some acute inflammations,—as peritonitis, pleurisy, ovaritis, &c.*

331. *Opium and Sugar of Milk.*

℞. Pulveris Ipecacuanhæ Compositi, gr. 1; Sacchari Lactis, gr. 120. Mix, and divide into four powders. One to be taken every night, beaten up in a teaspoonful of cream. *A safe opiate for infants from two to six weeks old.*

℞. Tincturæ Opii, min. 1; Sacchari Lactis, oz. ½; Mucilaginis Tragacanthæ, Aquæ Anethi, āā fl. drs. 4. Mix. One teaspoonful twice or thrice in the twenty-four hours. *To relieve the painful diseases of early life.*

332. *Tincture of Henbane.*

℞. Tincturæ Hyoscyami, fl. oz. 1. One teaspoonful in a wineglassful of water every night at bedtime. The dose may be gradually increased until from one to three fluid ounces can be taken every night. *In some forms of epilepsy.*

333. *American Wild Cherry.*

℞. Tincturæ Pruni Virginianæ, fl. drs. 3—6; Aquam, ad fl. oz. 8. Mix. One-eighth part every four or six or eight hours. The dose of the Infusion is one ounce, at the same intervals. *As a sedative and tonic in cases of cardiac weakness with inefficient action; in valvular disease with dilatation; mitral regurgitation; chronic bronchitis with valvular disease or dilated ventricles; atonic dyspepsia; intestinal irritability, &c.* The action is less powerful than that of digitalis; but it is often better borne, and can be continued for a longer time. After a course of the American Wild Cherry, quinine and steel will often prove useful, though previously they may have been injurious.

334. *Preparations of Digitalis.*

℞. Infusi Digitalis, fl. drs. 12; Aquam Anethi, ad fl. oz. 8. Mix. One-sixth part every two, three, or four hours. *Experiments tend to prove that digitalis is a cardiac stimulant and tonic for a time. In feeble and irregular action of the heart this drug proves of great value; as it also does in dilatation and hypertrophy of the left side of the heart. Digitalis is very serviceable in cardiac dropsy, when there is a feeble and frequent and irregular pulse, with a scanty secretion of high-coloured urine; inasmuch as it gives increased force to the heart's contractions, while it has a diuretic action on the kidneys. Digitalis had better be avoided in examples of fatty degeneration of the heart. In some cases of delirium tremens large doses have a very good effect.*

℞. Tincturæ Digitalis, fl. dr. 1; Tincturæ Cardamomi Compositæ, fl. drs. 6; Acidi Hydrocyanici Diluti, min. 20; Aquam Camphoræ, ad fl. oz. 8. Mix. One-sixth part three times a day. *In some forms of cardiac disease with irritability of the stomach.*

335. *Hemlock and Henbane, &c.*

℞. Extracti Conii, Extracti Hyoscyami, Pilulæ Rhei Compositæ, āā gr. 3. Mix, and divide into two pills. To be taken at bedtime. *To relieve sleeplessness with constipation. In some forms of asthma.*

℞. Extracti Conii, Extracti Hyoscyami, Pilulæ Hydrargyri, āā gr. 3; Pulveris Ipecacuanhæ, gr. 1. Mix, and divide into two pills. To be taken at bedtime.

336. *Hemlock and Dover's Powder.*

℞. Extracti Conii, gr. 36; Pulveris Ipecacuanhæ Compositi, gr. 24. Mix, and divide into twelve pills. One to be taken every three or four hours. *To relieve the pain arising from malignant disease.*

337. *Henbane and Indian Hemp.*

℞. Extracti Cannabis Indicæ, gr. ¼—1; Extracti Belladonnæ, gr. ¼; Extracti Hyoscyami, gr. 4. Make into a pill. To be taken every twelve or twenty-four hours. The efficacy of this pill can sometimes be increased by giving with it a draught containing some spirit of chloroform or spirit of ether.

337*a*. *Caffein and Guarana.*

℞. Caffeinæ Citratis, gr. 2; Confectionis Rosæ, gr. 3. Make into a pill. *Sometimes very effective in nervous headache. It should be taken at the commencement of the paroxysm, and repeated once in forty minutes,* *if necessary. Guarana powder is also useful in the same condition, in doses of 20 grains. It owes its power to the caffein which it contains.*

338. *Iodoform Pills and Suppositories.*

℞. Iodoformi, gr. 2—6; Extracti Conii, gr. 4. Mix. Divide into two pills, and order them to be taken at bedtime. *In painful diseases of the stomach. A full dose of iodoform will sometimes relieve a paroxysm of asthma.*

℞. Iodoformi, gr. 3—8; Morphinæ Hydrochloratis, gr. ¼; Olei Theobromæ, gr. 20. Mix, for a suppository. *As a local anæsthetic in cancerous and other painful diseases of the rectum.* The anodyne action of Iodoform is uncertain.

339. *Narcotic Enemata.*

℞. Liquoris Morphinæ Acetatis, min. 20—60; Tincturæ Catechu, min. 40; Vini Ipecacuanhæ, min. 30; Mucilaginis Amyli, fl. oz. 2. Mix. The bowel should be washed out with warm water before the administration of this enema. *In diarrhœa, tenesmus, strangury, &c.*

℞. Extracti Opii Liquidi, min. 20—fl. dr. 1; Tincturæ Belladonnæ, min. 15—30; Mucilaginis Amyli, fl. oz. 2. Mix. *In cancer of uterus, rectum, &c.*

340. *Opiate Suppositories.*

℞. Pulveris Opii, gr. 1—2; Saponis Duri, gr. 10. Mix, for a suppository. *To allay pain or irritation about the pelvic viscera.*

℞. Extracti Opii, gr. 1—3; Extracti Belladonnæ, gr. ½; Olei Theobromæ, gr. 20. Mix into a suppository. *Especially useful in diseases of the bladder, uterus and rectum.*

Suppositoria Morphinæ (B.P.), or Suppositoria Morphinæ cum Sapone (B.P.). *Valuable in cancer of the uterus.*

341. *Lettuce Opium.*

℞. Lactucarii, gr. 8—10. To be divided into two pills, to be taken at bedtime. *A doubtful narcotic. Has been chiefly used as an anodyne in phthisis, or where opium cannot be borne.*

342. *Indian Hemp, Aconite, and Ether.*

℞. Tincturæ Cannabis Indicæ, min. 10; Spiritûs Juniperi, min. 30; Spiritûs Ætheris, min. 45; Tincturæ Aconiti, min. 5; Mucilaginem Acaciæ, ad fl. drs. 12. Mix, for a draught. To be taken at bedtime. *In neuralgic dysmenorrhœa, &c.*

343. *Opium, or Morphine, and Henbane.*

℞. Extracti Opii, gr. 1—4, *vel* Morphinæ Hydrochloratis, gr. ¼—1; Extracti Hyoscyami, gr. 5. Make into two pills, to be taken at bedtime. *For the relief of severe pain and to afford sleep in lingering diseases.*

344. *Opium and Belladonna.*

℞. Extracti Opii, gr. 1; Extracti Belladonnæ, gr. ¼; Extracti Conii, gr. 3. Make into a pill, to be taken every three or four hours. *In intestinal obstruction. And in other cases where it is necessary to relieve severe pain without inducing constipation. The belladonna also increases the hypnotic action of the opium.*

345. *Opium and Capsicum.*

℞. Extracti Opii, gr. 1—2; Capsici Fructûs, gr. 2; Extracti Hyoscyami, gr. 4. Make into two pills, to be taken every night at bedtime. *In those diseases where opium is needed, but where it is not well borne, owing to its producing headache, sickness, &c. The stimulating effect of the capsicum will often ward off these unpleasant results.*

346. *Morphine and Squill Linctus.*

℞. Syrupi Scillæ, Syrupi Rhœados, āā fl. drs. 10; Aquæ Laurocerasi, min. 25; Tincturæ Benzoini Compositæ, fl. drs. 3; Liquoris Morphinæ Hydrochloratis, fl. dr. 1. Mix, and label,—"A small teaspoonful to be taken frequently if the cough is troublesome."

347. *Compound Linctus.*

℞. Spiritûs Chloroformi, fl. drs. 3; Vini Ipecacuanhæ, fl. drs. 2; Liquoris Morphinæ Acetatis, fl. dr. 1; Acidi Hydrocyanici Diluti, min. 15; Tincturæ Conii, fl. drs. 2; Syrupi Tolutani, fl. oz. 3. Mix, and label,—"One teaspoonful every two or three hours, until the cough is relieved." See F. 246, 247.

XV. REFRIGERANTS AND SALINES.

348. *Saline Draughts.*

℞. Sodii Bicarbonatis, gr. 20; Aquæ Laurocerasi, min. 10; Syrupi Limonis, fl. dr. 1; Aquam, ad fl. oz. 2. Mix. An effervescing draught is to be made by the addition of a tablespoonful of lemon juice, or of eighteen grains of citric acid. To be taken every four or six hours. *In fever with nausea.*

℞. Spiritûs Ætheris Nitrosi, fl. drs. 4; Liquoris Ammonii Acetatis, fl. drs. 12—18; Vini Colchici, fl. dr. 1; Aquam Camphoræ, ad fl. oz. 8. Mix. Two tablespoonfuls every four hours.

℞. Potassii Nitratis, gr. 40, *vel* Potassii Citratis, grs. 100; Vini Antimonialis, fl. dr. 1; Liquoris Ammonii Acetatis, fl. drs. 14; Aquam Camphoræ, ad fl. oz. 8. Mix. One-sixth part every four hours.

349. *Saline with Excess of Ammonia.*

℞. Liquoris Ammonii Acetatis, fl. drs. 10; Spiritûs Ammoniæ Aromatici, fl. drs. 3; Syrupi Limonis, fl. drs. 6; Aquam, ad fl. oz. 8. Mix. One-sixth part every four hours. *In the early stages of fever, tonsillitis, acute pneumonia, &c.*

350. *Dr. Stevens' Saline Mixture.*

℞. Sodii Chloridi, gr. 20; Potassii Chloratis, gr. 7; Sodii Carbonatis, grs. 30; Aquæ, fl. drs. 12. Mix. To be taken every half hour. *In malignant cholera.*

351. *Colchicum and Magnesia, or Chlorate of Potash.*

℞. Vini Colchici, fl. drs. $1\frac{1}{2}$; Magnesiæ Ponderosæ, gr. 120; Spiritûs Ammoniæ Aromatici, fl. drs. 3; Tincturæ Hyoscyami, fl. drs. 4—6; Aquam Camphoræ, ad fl. oz. 8. Mix. One-sixth part night and morning. *In slight cases of gout, &c.*

℞. Vini Colchici, fl. drs. 2; Potassii Chloratis, gr. 120; Liquoris Ammonii Citratis, fl. drs. 20; Aquam Camphoræ, ad fl. oz. 8. Mix. One-sixth part three times a day. *In gout with heat and dryness of the skin.*

352. *Salicylic Acid, Salicylates and Salicine.*

℞. Sodii Salicylatis, grs. 120; Spiritûs Ammoniæ Aromatici, fl. dr. 1; Aquæ, fl. oz. 6. Mix. A sixth part to be taken every hour for six doses, this to be repeated on the second day of treatment. The same dose may afterwards be given three or four times a day. *In acute rheumatism without heart complications. Usually the pain and fever are at once subdued.* Salicylic acid or the salicylates may produce vomiting, or may give rise to noises in the ears, giddiness, or delirium. Impurities, such as carbolic acid, sometimes contained in salicylic acid may be dangerous.

℞. Acidi Salicylici, gr. 60; Liquor Ammonii Acetatis, fl. oz. 3; Aquam, ad fl. oz. 6. Mix. Two tablespoonfuls to be taken three or four times a day.

℞. Salicini, gr. 15—20. Make a powder. To be administered in a wafer, or suspended in water in the same way as salicylic acid. *In acute rheumatism.* Said by DR. MACLAGAN to be better than the salicylates.

353. *Borax and Nitrous Ether.*

℞. Boracis, gr. 80; Spiritûs Ætheris Nitrosi, fl. drs. 3; Syrupi Papaveris, fl. drs. 6; Infusum Lini, ad fl. oz. 8. Mix. One-sixth part every six hours.

354. *Ammonia, Chlorinated Soda, and Serpentary.*

℞. Ammonii Carbonatis, gr. 30; Liquoris Sodii Chlorinatæ, fl. dr. 1; Infusi Serpentariæ, fl. oz. 8. Mix. One-sixth part every six hours. *As a diaphoretic and stimulant in the low stage of continued fever.* See F. 368.

355. *Bicarbonate of Potash Drink.*

℞. Potassii Bicarbonatis, oz. $\frac{1}{4}$—$\frac{1}{2}$; Syrupi Limonis, fl. oz. 1; Aquam, ad O. 2. Mix, for the day's drink. *Very useful in the uric acid diathesis, in acute rheumatism, &c. A drink called "Constitution water" owes its efficacy to the bicarbonate of potash it contains.*

356. *Cream of Tartar Drink.*

℞. Potassii Tartratis Acidæ, oz. 1; Olei Limonis, min. 15; Sacchari Albi, oz. 2; Aquæ Bullientis, O. 2. Mix. To be used when cold, as a common drink. *In simple fever, with constipation and great thirst.*

357. *Hydrochloric Acid Drinks.*

℞. Acidi Hydrochlorici Diluti, fl. drs. 2—3; Mellis Depurati, oz. 1; Decocti Hordei, O. 2. Mix, for the daily drink. *In typhus, &c.*

℞. Acidi Hydrochlorici Diluti, fl. drs. 2; Potassii Chloratis, gr. 180; Syrupi Zingiberis, fl. oz. 1; Decocti Hordei, O. 2. Mix. *A valuable drink in some cases of fever.*

358. *Saline Lemonade.*

℞. Sodii Chloridi, gr. 200; Potassii Chloratis, gr. 240; Sodii Tartaratæ, gr. 100; Sodii Phosphatis, gr. 50; Succi Limonis Recentis, fl.

oz. 6; Syrupi Limonis, fl. oz. 14; Aquæ, O. 7. Mix. *To be taken ad libitum, iced or not as is most agreeable, in cholera and choleraic diarrhœa.*

359. *Phosphoric Acid Drink.*

℞. Acidi Phosphorici Diluti, fl. drs. 3; Glycerini, fl. oz. 1; Decocti Hordei, O. 2. Mix. *An efficacious drink for assuaging thirst in some diseases attended with nervous exhaustion. It was recommended by* DR. PARIS *and* SIR THOMAS WATSON *as useful in diabetes; but according to* GRIESINGER *it positively increases the quantity of sugar excreted.*

360. *Chlorate of Potash Drinks.*

℞. Potassii Chloratis, gr. 60; Syrupi Hemidesmi, fl. oz. 1; Aquæ, O. 1. Mix. *In the eruptive fevers, some inflammations, &c.*

℞. Potassii Chloratis, oz. 1; Potassii Bicarbonatis, oz. 2—4. Mix, and divide into eight powders. One to be dissolved in a pint of barley water for the day's drink. *In acute rheumatism.*

XVI. STIMULANTS.

361. *Ammonia and Bitters.*

℞. Ammonii Carbonatis, gr. 30; Spiritûs Myristicæ, fl. drs. 2; Tincturæ Chloroformi Compositæ, fl. dr. 1; Tincturæ Cardamomi Compositæ, fl. drs. 6; Infusum Caryophylli, ad fl. oz. 8. Mix. One-sixth part every four or six hours. *In debility with nausea and flatulence. Also in erysipelas, tonsillitis, scarlet fever, &c.*

℞. Spiritûs Ammoniæ Aromatici, fl. drs. 3; Tincturæ Lupuli, fl. drs. 6; Spiritûs Ætheris, fl. drs. 3; Tincturæ Gentianæ Compositæ, fl. oz. 1; Infusum Sennæ, ad fl. oz. 8. Mix. One-sixth part twice or thrice daily.

℞. Spiritûs Ammoniæ Aromatici, fl. frs. 3; Aquæ Laurocerasi, fl. dr. 1; Sodii Bicarbonatis, gr. 60: Tincturæ Calumbæ, fl. drs. 6; Aquam Anethi, ad fl. oz. 8. Mix. One-sixth part two or three times a day. *To relieve nausea, or vomiting, with heartburn.*

℞. Tincturæ Valerianæ Ammoniatæ, fl. drs. 3; Tincturæ Rhei, fl. drs. 6; Tincturæ Lavandulæ Compositæ, fl. oz. 1; Aquæ Pimentæ, fl. oz. 6 Mix. One-sixth part when oppressed with languor or faintness. *In hypochondriasis and hysteria.*

362. *Ammonia in Effervescence.*

℞. Ammonii Carbonatis, gr. 120; Acidi Hydrocyanici Diluti, min. 20; Tincturæ Cardamomi Compositæ, fl. drs. 6; Infusum Aurantii, ad fl. oz. 8. Mix. One-sixth part to be made into an effervescing draught with one tablespoonful of fresh lemon juice, or with eighteen grains of citric acid. To be taken twice or thrice daily. *In irritability of the stomach, with depression.*

℞. Spiritûs Ammoniæ Aromatici, fl. drs. 4; Potassii Bicarbonatis, gr. 120; Spiritûs Chloroformi, fl. drs. 2; Tincturæ Hyoscyami, fl. drs. 3; Infusum Cascarillæ, ad fl. oz. 8. Mix. One-sixth part every four hours, made into an effervescing draught with one tablespoonful of lemon juice. *In irritable stomach with undue acidity of the secretions.*

363. *Capsicum.*

℞. Tincturæ Capsici, fl. dr. 1; Liquoris Arsenicalis, min. 12; Tincturæ Nucis Vomicæ, fl. dr. 1: Tincturæ Aurantii, fl. drs. 6; Aquam, ad fl. oz. 6. Mix. Two tablespoonfuls three times a day. *For the cure of drink-craving.*

℞. Pulveris Capsici, gr. 20; Mellis, gr. 20. Fiat bolus. *Useful in delirium tremens.*

364. *Phosphate of Ammonia.*

℞. Ammonii Phosphatis, gr. 60—100; Infusum Caryophylli, ad fl. 8. Mix. One-sixth part three times a day. *In debility with a tendency to gout or rheumatism. Also in hypochondriasis.*

365. *Hydrochloric Acid.*

℞. Acidi Hydrochlorici Diluti, fl. dr. 1; Syrupi Aurantii, fl. drs. 6; Infusum Aurantii, ad fl. oz. 8. Mix. One-sixth part every six hours. *In continued fever, and in cases where the expired air is ammoniacal.*

366. *Cajuput Oil and Cloves.*

℞. Olei Cajuputi, min. 5; Pulveris Tragacanthæ Compositi, gr. 60; Aquæ Destillatæ, fl. drs. 2. Beat thoroughly together, and add—Infusi Caryophylli, fl. drs. 10. Mix. To be taken occasionally. *In hysteria, flatulent colic, and many spasmodic diseases.*

℞. Olei Cajuputi, min. 4; Sacchari Lactis, gr. 120. Beat up thoroughly and add—Decocti Aloes Compositi, fl. oz. 1½. Mix. To be taken occasionally, early in the morning. *As a stimulant and laxative where there is a tendency to flatulence and a loaded rectum.*

367. *Bark and Brandy.*

℞. Spiritûs Vini Gallici, fl. drs. 12; Infusum Cinchonæ Flavæ, ad fl. oz. 8. Mix. One-sixth part every four or six hours. *At the commencement of convalescence from many acute diseases.*

℞. Spiritûs Chloroformi, fl. drs. 6; Misturæ Spiritûs Vini Gallici (F. 17), fl. oz. 8. One-sixth part every six hours. *In the later stages of low fever with restlessness.*

368. *Solution of Chlorinated Soda.*

℞. Liquoris Sodii Chlorinatæ, fl. drs. 1—2; Syrupi Tolutani, fl. oz. 1; Tincturæ Serpentariæ, fl. drs. 6; Aquam, ad fl. oz. 8. Mix. One-sixth part every six hours. *In low fever this mixture will clean the tongue, promote the action of the skin and kidneys, correct the offensive state of the evacuations, and rouse the patient.* See F. 354.

℞. Liquoris Sodii Chlorinatæ, fl. dr. 1; Tincturæ Cinchonæ Compositæ, fl. drs. 6; Spiritûs Vini Gallici, fl. drs. 12; Aquæ, fl. oz. 8. Mix. One-sixth part every three or four hours. *In low fever, with great prostration.*

369. *Sumbul, Quinine, Hop, &c.*

℞. Tincturæ Sumbulis, fl. drs. 1—3; Infusi Lupuli, fl. oz. 8. Mix. One-sixth part three times a day. *In some cases of hysteria, epilepsy, threatened delirium tremens, &c., where a stimulant and antispasmodic is needed.* See F. 95.

℞. Tincturæ Quininæ, Tincturæ Rhei, Tincturæ Lupuli, āā fl. drs. 4. Mix. One teaspoonful in a wineglassful of water twice a day. *In dyspepsia from weakness of the digestive organs, and constipation.* See F. 385.

370. *Preparations of Oxygen.*

Oxygen Gas can be best inhaled by using a large vulcanite bag filled with oxygen and air—1 to 4. This mixture is to be inhaled for half an hour once or twice a day; slowly inspiring it at short intervals, and filling the lungs as much as possible.

Messrs. Robbins & Co. have prepared a powder which they call the "Patent Oxygenator." On placing a wineglassful of this material in the vase of Dr. Beigel's Universal Inhaler, and pouring over it half a pint of boiling water, pure oxygen will be evolved. Inhalation may be practised once or twice a day, for ten or fifteen minutes at a time.

XVII. TONICS.

371. *Bark and Ammonia.*

℞. Ammonii Carbonatis, gr. 30; Tincturæ Lavandulæ Compositæ, fl. oz. 1; Infusum Cinchonæ Flavæ, ad fl. oz. 8. Mix. One-sixth part every six hours.

℞. Ammonii Phosphatis, gr. 60; Tincturæ Cinchonæ Compositæ, fl. drs. 6; Aquam Menthæ Piperitæ, ad fl. oz. 8. Mix. One-sixth part three times a day. In gouty subjects.

℞. Ammonii Carbonatis, gr. 30; Extracti Opii Liquidi, min. 30; Spiritûs Ætheris, fl. drs. 3; Decocti Cinchonæ Flavæ, fl. oz. 8. Mix. One-sixth part every three or four hours. *In cases where it is feared that a deposition of fibrin has taken place in the heart or one of the large vessels.*

℞. Spiritûs Ammoniæ Aromatici, Spiritûs Chloroformi, āā fl. drs. 6; Liquoris Morphinæ Hydrochloratis, fl. drs. 2; Extracti Cinchonæ Flavæ Liquidi, fl. drs. 4; Tincturæ Cinchonæ Flavæ, fl. drs. 6. Mix. Direct.—"One teaspoonful in a wineglassful of Port wine three times a day." *In certain cases of phthisis this mixture is very useful, especially in conjunction with cod liver oil and a liberal diet.*

372. *Ammonia, Bark, and Rhubarb.*

℞. Spiritûs Ammoniæ Aromatici, fl. drs. 4; Extracti Cinchonæ Flavæ Liquidi, fl. drs. $1\frac{1}{2}$; Tincturæ Rhei, fl. drs. 4; Infusum Rhei, ad fl. oz. 8. Mix. One-sixth part twice or thrice daily. *In nervous depression, &c., with constipation.*

373. *Bark and Liquor Potassæ.*

℞. Liquoris Potassæ, fl. drs. 3; Tincturæ Cinchonæ Compositæ, fl. drs. 6; Decoctum Cinchonæ Flavæ, ad fl. oz. 8. Mix. One-sixth part twice or thrice daily. *In debility attended with the lithic acid diathesis.*

374. *Bark and Serpentary.*

℞. Tincturæ Cinchonæ Compositæ, fl. oz. 1; Tincturæ Serpentariæ, *vel* Tincturæ Acteæ Racemosæ, fl. drs. 3; Aquam Menthæ Piperitæ, ad fl. oz. 8. Mix. One-sixth part three times a day. *In some cases of chronic rheumatism, lumbago, and rheumatoid arthritis.*

375. *Bark and Hemlock.*

℞. Tincturæ Cinchonæ Compositæ, fl. drs. 6; Succi Conii, fl. drs. 4; Aquam Pimentæ, ad fl. oz. 8. Mix. One-sixth part three times a day. *In chronic diseases attended with debility and pain.*

376. *Acid Mixtures and Bark.*

℞. Acidi Sulphurici Aromatici, fl. drs. 2; Syrupi Aurantii, fl. oz. 1; Tincturæ Cinchonæ Compositæ, fl. drs. 6; Infusum Cinchonæ Flavæ, ad fl. oz. 8. Mix. One-sixth part twice or thrice daily, on an empty stomach. *Especially useful in depressing disorders accompanied with occasional attacks of hæmorrhage.*

℞. Acidi Phosphorici Diluti, fl. drs. 1½; Syrupi Aurantii, fl. drs. 6; Tincturæ Cinchonæ Compositæ, fl. oz. 1; Infusum Aurantii, ad. fl. oz. 8. Mix. One-sixth part three times a day. *In debility with nervous irritability.*

℞. Acidi Nitrici Diluti, *vel* Acidi Phosphorici Diluti, fl. drs. 1½; Tincturæ Nucis Vomicæ, fl. dr. 1; Extracti Cinchonæ Flavæ Liquidi, fl. drs. 2; Aquam Menthæ Piperitæ, ad fl. oz. 8. Mix. One-sixth part three times a day, two hours before each meal. *In general weakness, with nervous exhaustion.*

℞. Acidi Acetici Glacialis, min. 20—35; Tincturæ Belladonnæ, Extracti Cinchonæ Flavæ Liquidi, āā drs. 4; Tincturæ Cardamomi Compositæ, ad fl. oz. 3. Mix and label,—"One small teaspoonful in a wineglassful of water two or three times a day." *After operations on cancerous growths, to prevent recurrence; effect doubtful.*

Use Ext. Sarsæ Liq. as vehicles for tonics when there is any fear of old syphilitic taint.

377. *Acid Mixtures with Calumba, &c.*

℞. Tincturæ Calumbæ, fl. drs. 6; Acidi Sulphurici Aromatici, fl. drs. 1½; Syrupi Aurantii, fl. oz. 1; Infusum Aurantii, ad fl. oz. 8. Mix. One-sixth part three times a day, when the stomach is empty.

℞. Acidi Hydrochlorici Diluti, fl. drs. 1½; Acidi Hydrocyanici Diluti, min. 20; Infusi Chiratæ, fl. oz. 8. Mix. One-sixth part three times a day, immediately before the meals. *As a stomachic, especially in the dyspepsia of gouty subjects.*

℞. Succi Limonis Recentis, fl. drs. 12; Syrupi Limonis, fl. oz. 1; Infusum Chiratæ, ad fl. oz. 8. Mix. One-sixth part three times a day. *Where there is debility with a threatening of rheumatic fever. In cancer of the stomach, &c.*

Glycerine mixed with tonics, especially preparations of steel, increases their efficacy and obviates their constipating effects.

378. *Nitro-Hydrochloric Acid Mixtures.*

℞. Acidi Nitro-Hydrochlorici Diluti, fl. drs. 1½—3; Tincturæ Chiratæ, fl. drs. 3; Syrupi Aurantii, fl. oz. 1; Infusum Aurantii, ad fl. oz. 8. Mix. One-sixth part three times a day, an hour before each meal. *In oxaluria, dyspepsia, rheumatoid arthritis, &c.*

℞. Acidi Nitro-Hydrochlorici Diluti, fl. drs. 2; Acidi Hydrocyanici Diluti, min. 25; Succi Taraxaci, fl. drs. 6; Tincturæ Gentianæ Compositæ, fl. oz. 1; Infusum Sennæ, ad fl. oz. 8. Mix. One-sixth part twice or thrice daily. *In dyspepsia, with sluggish action of the liver.* The efficacy of this mixture may often be increased by giving with each dose a pill containing one or two grains of sulphate of zinc and four of extract of gentian.

℞. Acidi Nitro-Hydrochlorici Diluti, fl. drs. 2; Liquoris Strychninæ min. 30—fl. dr. 1; Spiritûs Chloroformi, fl. drs. 6; Tincturæ Zingiberis, fl. drs. 3; Aquam, ad fl. oz. 8. Mix. One-eighth part, with a large tablespoonful of water, three times a day. *In any form of functional paralysis after all the appreciable causes are remedied. Also in obstinate debility, hypochondriasis, atonic dyspepsia, diabetes insipidus, alkaline urine, &c.*

℞. Acidi Nitro-Hydrochlorici Diluti, fl. drs. 1½; Tincturæ Belladonæ, fl. dr. 1; Extracti Pareiræ Liquidi, fl. dr. 1; Decocti Pareiræ, ad. fl. oz. 8. Mix. One-sixth part every six hours. *Tonic in irritable bladder, and some chronic diseases of kidney or bladder.*

379. *Quinine Mixtures and Pills.*

℞. Quininæ Sulphatis, gr. 12; Acidi Nitrici Diluti, *vel* Acidi Phosphorici Diluti, *vel* Acidi Hydrochlorici Diluti, *vel* Acidi Sulphurici Aromatici, fl. drs. 1½; Tincturæ Lupuli, fl. drs. 6; Aquam, ad fl. oz. 8. Mix. One-sixth part three times a day. *Amongst other purposes, this mixture may be used to check the night sweats in phthisis.*

℞. Tincturæ Quininæ, fl. drs. 14; Tincturæ Zingiberis Fortioris, fl. drs. 2; Glycerini, fl. oz. 1. Mix. One teaspoonful in a wineglassful of water three times a day. *In neuralgia, nervous irritability, weakness, &c.*

℞. Quininæ Sulphatis, gr. 18; Extracti Lupuli, gr. 40. Make a mass, divide into twelve pills, and order one to be taken three times a day.

℞. Quininæ Sulphatis, gr. 4; Acidi Phosphorici Diluti, min. 20; Syrupi Aurantii, fl. drs. 4; Aquam, ad fl. oz. 4. Mix. One small tablespoonful three times a day. *In strumous ophthalmia and other cases of debility in children.*

℞. Quininæ Sulphatis Neutralis, gr. 10: Aquæ, fl. drs. 2. Dissolve. For use as subcutaneous injection. *Efficacious in malignant, intermittent, and remittent fevers, and in threatened hyperpyrexia;* min. 20 to be injected.

380. *Quinine and Steel.*

℞. Quininæ Sulphatis, Ferri Sulphatis, āā gr. 12; Liquoris Strychninæ, min. 30; Acidi Sulphurici Aromatici, fl. drs. 1½; Infusum Quassiæ, ad. fl. oz. 8. Mix. One-sixth part three times a day. *The black stools which are passed while any preparation of steel is being taken, are due to the combination of the metal with part of the sulphur of the food—forming sulphuret of iron.*

℞. Quininæ Sulphatis, gr. 9; Acidi Hydrochlorici Diluti, fl. dr. 1; Tincturæ Arnicæ, min. 30—fl. dr. 1; Tincturæ Ferri Perchloridi, fl. drs. 1½; Infusum Caryophylli, ad. fl. oz. 8. Mix. One-sixth part three times a day. *In general debility, diphtheria, erysipelas, &c.*

℞. Quininæ Sulphatis, gr. 12; Tincturæ Ferri Perchloridi, fl. drs. 2; Tincturæ Nucis Vomicæ, fl. dr. 1; Tincturæ Lupuli, fl. drs. 6; Magnesii

Sulphatis, 1 oz.; Infusum Lupuli, ad fl. oz. 8. Mix. One-sixth part daily, three hours after breakfast. *In habitual constipation with debility.*

℞. Quininæ Sulphatis, Ferri Sulphatis Exsiccatæ, āā gr. 20. Extracti Hyoscyami, gr. 30. Make a mass, divide into twelve pills, and order one to be taken twice a day. *In debility with irritability of the nervous system.*

℞. Quininæ Sulphatis, gr. 12; Ferri Redacti, gr. 30; Extracti Aconiti, gr. 12; Glycerine, sufficient to form a mass. Divide into twelve pills, and order one to be taken an hour after dinner and supper. *In neuralgia, rheumatoid arthritis, painful chronic affections with debility, &c.*

℞. Ferri et Quininæ Citratis, gr. 30; Tincturæ Chiratæ, fl. drs. 1½; Aquam, ad fl. oz. 8. Mix. One-sixth part three times a day. *An excellent tonic where there is exhaustion, with a weak and irritable stomach. If the strong bitter is objectionable, Tincture of Lemon Peel may be substituted for the Chiretta.*

381. *Quinine, Steel, and Arsenic.*

℞. Tincturæ Quininæ, fl. oz. 1; Liquoris Arsenicalis, min. 18; Ferri et Ammonii Citratis, gr. 30; Aquam Aurantii, ad fl. oz. 8. Mix. One-sixth part two or three times a day, after meals. *In diseases of the skin, &c., with impoverished blood.*

℞. Quininæ Sulphatis, gr. 9; Acidi Phosphorici Diluti, Tincturæ Ferri Perchloridi, āā fl. drs. 1½; Liquoris Arsenici Hydrochlorici, min. 15—40; Syrupi Zingiberis, fl. drs. 6; Aquæ Cinnamomi, *vel* Infusi Quassiæ, fl. oz. 8. Mix. One-sixth part directly after breakfast, dinner, and supper. *In many skin diseases, rheumatoid arthritis, carbuncular inflammation, &c.* See F. 52, 399.

382. *Quinine and Iodide of Iron.*

℞. Tincturæ Quininæ, fl. oz. 1; Syrupi Ferri Iodidi, fl. drs. 3—6; Infusum Calumbæ, ad fl. oz. 8. Mix. One-sixth part three times a day. *In debility with a strumous taint, chronic rheumatism, tertiary syphilis, goitre, &c.*

383. *Quinine and Belladonna.*

℞. Quininæ Sulphatis, gr. 24; Extracti Belladonnæ, gr. 4; Camphoræ, gr. 30; Confectionis Rosæ Gallicæ, sufficient to make a mass. Divide into twelve pills, silver them; and order one to be taken twice or thrice daily. *In some painful diseases where a sedative and tonic are needed.* See F. 44.

384. *Quinine and Ipecacuanha.*

℞. Quininæ Sulphatis, gr. 12; Pulveris Ipecacuanhæ, gr. 12—24; Extracti Gentianæ, gr. 24. Mix. Divide into twelve pills, and order one to be taken every day at dinner. *An excellent remedy in cases of slow digestion.* See F. 44.

385. *Quinine and Rhubarb.*

℞. Quininæ Sulphatis, gr. 24; Pulveris Rhei, gr. 36; Extracti Lupuli, gr. 40. Mix. Divide into twenty-four pills, and order two to be taken night and morning.

386. *Quinine and Ammonia.*

℞. Tincturæ Quininæ, fl. oz. 1; Glycerini, fl. drs. 6; Spiritûs Ammoniæ Aromatici, Spiritûs Ætheris, āā fl. drs. 3; Extracti Opii Liquidi, min. 30; Infusum Aurantii, ad fl. oz. 8. Mix. One-sixth part every six hours. *In great exhaustion, with low muttering delirium and restlessness.*

387. *Quinine and Nux Vomica.*

℞ Quininæ Sulphatis, gr. 18; Extracti Nucis Vomicæ, gr. 3—6; Extracti Gentianæ, gr. 30. Mix, and divide into twelve pills. One to be taken night and morning. *In debility with constipation.* See F. 175, 409.

388. *Substitutes for Quinine.*

℞. Beberiæ Sulphatis, gr. 30; Acidi Sulphurici Aromatici, min. 40; Syrupi Aurantii, fl. oz. 1; Aquam Aurantii Floris, ad fl. oz. 8. Mix. One-sixth part three times a day. *In neuralgic affections assuming a periodic character; as well as in intermittent and remittent fevers. Beberia does not produce cerebral disturbance and headache like quinine. The sulphate of this alkaloid is said to be an ingredient of* WARBURG'S *Fever Drops.*

℞. Salicini, gr. 60; Extracti Sarsæ Liquidi, fl. drs. 6; Infusum Gentianæ Compositi, ad fl. oz. 8. Mix. One-sixth part three times a day. *During convalescence from acute disorders of the digestive organs. The antiperiodic properties of salicin render it useful in intermittents and some other fevers.*

℞. Salicini, gr. 120; Glycerini, fl. oz. 1; Tincturæ Aurantii, fl. oz. 3. Mix. One teaspoonful in a wineglassful of water night and morning. *Where the stomach is easily nauseated and cannot digest quinine, this formula will be useful.*

389. *Cod Liver Oil.*

The oil most commonly used is of a pale straw colour, the dose varying from a teaspoonful to a large tablespoonful twice or thrice daily. It should be taken immediately after meals; floating it on milk, coffee, beef tea, orange juice, orange wine, brandy and water, cherry brandy, &c. Chewing a piece of lemon peel or cinnamon, or a few cloves previously, will disguise the flavour. Sometimes it is preferred made into an emulsion; which may be done by beating it up with an equal proportion of lime water, or of milk, or with the yolk of an egg and some compound tincture of cardamoms. When the oil proves indigestible, giving rise to nausea or unpleasant eructations, the stomach can often be made to tolerate it by administering some preparation of pepsine or maltine (F. 420) with each dose.

389*a*. *Chaulmoogra Oil.*

An oil expressed from the seeds of the Indian plant Gynocardia Odorata. The oil (Oleum Gynocardiæ) has proved of service in leprosy; it is useful also in tertiary syphilis, in lupus, and in scrofula. The dose for an adult is from five to fifteen drops three times daily after food. It may be given in cod liver oil. It is semi-solid at the ordinary temperature, and is conveniently administered in capsules. An ointment made of twenty grains of the oil to an ounce of lard is recommended in skin diseases.

390. *Iodide of Iron and Cod Liver Oil.*

℞. Syrupi Ferri Iodidi, fl. drs. 4; Mucilaginis Tragacanthæ, fl. oz. 1; Olei Morrhuæ, fl. oz. 4½. Mix. One tablespoonful twice or thrice daily. *In some forms of scrofula, phthisis, mild constitutional syphilis, &c.*

℞. Potassii Iodidi, gr. 3—5; Glycerini, fl. drs. 2; Vini Ferri, fl. drs. 4; Olei Morrhuæ, fl. drs. 6. Mix, and make a draught to be taken twice a day. *In chronic rheumatism, tertiary syphilis, strumous skin diseases, &c.*

391. *Malt Extract.*

℞. A teaspoonful to a tablespoonful to be taken twice or thrice daily. *Deserving of trial when cod liver oil causes nausea.*

392. *Steel and Glycerine.*

℞. Tincturæ Ferri Perchloridi, fl. drs. 1½—2; Zinci Phosphatis, gr. 6; Spiritûs Chloroformi, fl. drs. 3; Glycerini, fl. oz. 1; Aquam, ad fl. oz. 8. Mix. One sixth part three times a day. *In some cases it is better to omit the glycerine from this mixture; administering cod liver oil instead, after one or two of the chief meals of the day.*

℞. Tincturæ Ferri Perchloridi, fl. drs. 2—4; Glycerini, fl. drs. 4; Tincturæ Cardamomi Compositæ, fl. oz. 1; Aquam, ad fl. oz. 8. Mix. One-eighth part every three or four hours. *In diptheria, erysipelas with albuminuria, &c.*

℞. Spiritûs Ammoniæ Aromaticæ, fl. drs. 4; Ferri et Ammonii Citratis, gr. 40; Infusi Quassiæ, fl. oz. 6½; Glycerini, fl. oz. 1. Mix. One sixth part three times a day. *In general debility.*

383. *Steel and Digitalis.*

℞. Tincturæ Ferri Perchloridi, min. 80; Infusi Digitalis, fl. oz. 2; Aquam Camphoræ, ad fl. oz. 8. Mix and label,—"One-eighth part, with one tablespoonful of water, three times a day." *In some forms of cardiac and renal dropsy, &c.*

394. *Steel and Pepsine.*

℞. Ferri Redacti, gr. 12—60; Pepsinæ Porci, gr. 36; Zinci Phosphatis, gr. 18; Glycerini, sufficient to make a mass. Divide into twenty-four pills, silver them, and order two of them to be taken every day at dinner. *In anæmia, with weakness of the digestive organs.*

℞. Ferri et Ammonii Citratis, gr. 20; Spiritûs Vini Gallici, fl. oz. 1; Vini Pepsinæ, fl. drs. 4; Aquam, ad fl. oz. 6. Mix. One-half to be taken every day at dinner. See F. 420.

395. *Steel and Hemlock.*

℞. Pilulæ Ferri Carbonatis, gr. 60; Extracti Conii, gr. 36—60. Mix, and divide into twenty-four pills. Two to be taken twice or thrice daily. *In incipient phthisis, and in many diseases attended with cough and debility.*

396. *Steel Electuaries.*

℞. Ferri Peroxidi Hydrati, Mellis Depurati, āā oz. 2. Mix. One teaspoonful twice a day. *In chorea, &c.*

℞. Ferri Carbonatis Saccharatæ, gr. 120—240; Mellis, fl. oz. 3. Mix. One teaspoonful twice or thrice daily after meals. Where there is no objection to pills it will be better to prescribe from 5—10 grs. of the officinal PILULA FERRI CARBONATIS twice a day.

397. *Steel and Hydrochloric Acid.*

℞. Tincturæ Ferri Perchloridi, fl. drs. 1½; Acidi Hydrochlorici Diluti, fl. drs. 2; Spiritûs Chloroformi, fl. drs. 3; Infusum Quassiæ, ad fl. oz. 8. Mix. One-sixth part three times a day. See F. 101.

398. *Steel and Gentian.*

℞. Ferri Sulphatis Granulatæ, Extracti Gentianæ, āā gr. 30. Mix, divide into twelve pills, and order one to be taken three times a day. *In chlorosis, &c.*

399. *Steel and Arsenic.*

℞. Vini Ferri, fl. oz. 4; Liquoris Arsenicalis, min. 20; Syrupi Zingiberis, fl. oz. 2. Mix. One-sixth part with three tablespoonfuls of water, three times a day, immediately after meals. *For cases of purpura. In reduced doses as a tonic and alterative in some of the skin diseases of children.* See F. 52, 381, 402.

℞. Syrupi Ferri Phosphatis, fl. oz. 2; Liquoris Sodii Arseniatis, min. 30. Mix. One teaspoonful in a wineglassful of water directly after dinner and supper. *In some forms of spleen disease, &c.*

400. *Steel and Cantharides.*

℞. Tincturæ Cantharidis, fl. drs. 1½; Glycerini, fl. oz. 1; Misturam Ferri Compositæ, ad fl. oz. 8. Mix. One-sixth part three times a day. *In debility of the generative organs, some form of incontinence of urine, &c.*

℞. Tincturæ Cantharidis, Tincturæ Ferri Perchloridi, āā fl. dr. 1; Tincturæ Capsici, fl. drs. 1½; Syrupi Hemidesmi, fl. oz. 1; Aquam, ad fl. oz. 8. Mix. One-sixth part three times a day.

401. *Steel and Ammonia.*

℞. Ferri Tartarati, gr. 60; Spiritûs Ammoniæ Aromatici, fl. drs. 3; Infusi Quassiæ, fl. oz. 8. Mix. One-sixth part three times a day. *In chlorosis, leucorrhœa from relaxation of vaginal mucous membrane, &c.*

℞. Ferri et Ammonii Citratis, gr. 40; Ammonii Carbonatis, gr. 30; Tincturæ Zingiberis, fl. drs. 3; Aquæ, fl. oz. 8. Mix. One-sixth part three times a day.

402. *Steel and Chlorate of Potash.*

℞. Tincturæ Ferri Perchloridi, fl. drs. 1½; Potassii Chloratis, gr. 120; Liquoris Arsenicalis, min. 15; Aquæ, fl. oz. 8. Mix. One-sixth part three or four times a day, in a wineglassful of water. *In certain skin diseases, onychia, &c. Also in anæmia dependent on a syphilitic taint, in erysipelas about the fauces, and in tonsillitis, &c., omitting the solution of arsenic from the mixture.*

403. *Steel and Citrate of Potash.*

℞. Ferri et Ammonii Citratis, gr. 60; Spiritûs Ammoniæ Aromatici fl. drs. 4; Potassii Bicarbonatis, gr. 120; Infusi Calumbæ, fl. oz. 8.

Mix. One-sixth part to be taken twice a day with one tablespoonful of lemon juice. *As a tonic during convalescence from many acute diseases, especially where there is a tendency to nausea and dyspepsia.*

404. *Steel and Aloes.*

℞. Ferri Carbonatis Saccharatæ, gr. 40; Infusi Anthemidis, fl. oz. 8. Mix. One-sixth part twice a day. The following draught is also to be taken every other morning before breakfast:—℞. Sodii Phosphatis, gr. 120; Extracti Rhei, gr. 10; Decocti Aloes Compositæ, fl. drs. 4; Aquæ Carui, fl. oz. 1. Mix. *Useful for atonic gouty subjects.*

℞. Ferri Redacti, gr. 30; Pilulæ Aloes et Myrrhæ, gr. 24—40; Extracti Nucis Vomicæ, gr. 4. Make a mass, divide into twelve pills, and order one to be taken three times a day. *In anæmia with constipation and amenorrhœa.*

℞. Misturæ Ferri Compositæ, Decocti Aloes Compositi, āā fl. oz. 4; Zinci Sulphatis, gr. 12. Mix. One-sixth part twice a day. *In anæmia, hypochondriasis, general debility with constipation, &c.*

405. *Phosphate of Iron.*

℞. Ferri Phosphatis, gr. 40; Acidi Phosphorici Diluti, fl. drs. $1\frac{1}{2}$; Syrupi Aurantii Floris, fl. oz. 1; Mucilaginem Tragacanthæ, ad fl. oz. 8. Mix. One-sixth part three times a day. *In scrofula, cancer, low nervous vigour, &c.*

A syrup of the Phosphates of Iron, Lime, Soda, and Potassa has been prepared by MR. PARRISH, of Philadelphia. It may be obtained from Messrs. Squire, London chemists; being known as "Chemical Food." The dose for a child ten years of age is one teaspoonful in water after the two principal meals of the day. This measure contains one grain of phosphate of iron; two and a-half grains of phosphate of lime; and smaller portions of the alkaline phosphates. *Chemical Food is a preparation of great value in all forms of strumous disease and general debility.*

406. *Steel and Manganese.*

℞. Ferri Phosphatis, gr. 120; Manganesii Phosphatis, gr. 90; Tincturæ Calumbæ, fl. oz. 1; Syrupi Zingiberis, fl. oz. 2. Mix. One teaspoonful in a wineglassful of water three times a day. *In chlorosis, scrofula, &c.*

407. *Dialysed Iron.*

Dialysed iron is a soluble ferric hydrate, prepared by dialysis. It is neutral in reaction, and can often be tolerated when no other preparation of iron can be borne. It does not cause constipation, and does not damage the teeth. It may be given in 15—20 *drop doses in distilled water or on sugar immediately before meals.*

408. *Strychnine and Steel.*

℞. Ferri et Ammonii Citratis, gr. 40; Liquoris Strychninæ, min. 30; Infusi Quassiæ, fl. oz. 8. Mix. One-eighth part twice a day. *In chronic nervous affections with debility.*

℞. Ferri Redacti, gr. 40; Zinci Valerianatis, gr. 20; Strychninæ, gr. 1; Glycerine, sufficient to make a mass. Divide very carefully into twenty pills, silver them, and direct one to be taken three times a day, after food. *In hypochondriasis, great nervous depression, &c.*

409. *Zinc and Nux Vomica.*

℞. Zinci Sulphatis, gr. 24; Extracti Nucis Vomicæ, gr. 6; Extracti Rhei, gr. 30. Make a mass, divide into twelve pills, and order one to be taken twice a day. *In weakness of the muscular system, atony of intestinal walls, &c.* See F. 177, 387.

410. *Valerianate of Zinc.*

℞. Zinci Valerianatis, gr. 12—24; Extracti Belladonnæ, gr. 3—6; Extracti Gentianæ, gr. 24. Make a mass, divide into twelve pills, and silver them. One to be taken three times a day. *In some nervous disorders, in cases of habitual constipation, and in spasmodic contraction of the sphincter ani.*

℞. Zinci Valerianatis, Zinci Phosphatis, āā gr. 10; Extracti Rhei, gr. 24. Make a mass, divide into twelve pills, and silver them. Order one to be taken three times a day. *For epilepsy, neuralgia, hysteria, &c. The valerianate of quinine, of soda, of ammonia, and of steel, may be employed in the same manner. In some cases of neuralgia as many as twelve or twenty grains of valerianate of ammonia in infusion of calumba have been given every four hours.*

411. *Valerianate of Zinc and Quinine.*

℞. Zinci Valerianatis, gr. 12; Quininæ Sulphatis, gr. 6; Pilulæ Rhei Compositæ, Extracti Anthemidis, āā gr. 20. Make a mass, divide into twelve pills, and silver them. One to be taken three times a day. *In hysteria, neuralgia, &c.*

412. *Valerianate of Steel and Savin.*

℞. Ferri Valerianatis, gr. 24; Olei Sabinæ, min. 24; Pilulæ Assafœtidæ Compositæ, gr. 30. Make a mass, divide into twelve pills, and silver them. One to be taken three times a day. *In anæmia, hysteria, and neuralgia, with amenorrhœa.*

413. *Sulphate of Zinc.*

℞. Zinci Sulphatis, gr. 24; Extracti Aconiti, gr. 6; Extracti Quassiæ, gr. 24. Make a mass, divide into twelve pills, and order one to be taken three times a day. *In epilepsy with neuralgic pains, lumbago, pleurodynia, &c. Its efficacy is much increased by giving cod liver oil at the same time.*

℞. Zinci Sulphatis, gr. 12—24; Extracti Conii, gr. 36. Make a mass, divide into twelve pills, and order one to be taken three times a day. *In the chronic bronchitis of old people as a tonic and sedative, &c.*

414. *Phosphate of Zinc.*

℞. Zinci Phosphatis, gr. 20—40; Acidi Phosphorici Diluti, fl. drs. 1½; Tincturæ Cinchonæ Flavæ, fl. drs. 6, *vel* Tincturæ Ferri Perchloridi, fl. drs. 1½; Aquam Menthæ Piperitæ, ad fl. oz. 8. Mix. One-sixth part three times a day. *In some affections of the nervous system with debility.*

R. Zinci Phosphatis, gr. 20; Extracti Nucis Vomicæ, gr. 5; Extracti Gentianæ, gr. 20. Mix. Divide into twenty pills, silver them, and order one to be taken twice a day.

414*a*. *Phosphide of Zinc.*

R. Zinci Phosphidi, grs. 3; Confectionis Rosæ Caninæ, dr. 1. Mix and divide into thirty pills. One to be taken three times a day. *Strongly recommended by* DR. HAMMOND, *of New York, as a nervine tonic. Each grain of the phosphate of zinc is equivalent to about one-seventh of a grain of phosphorus.*

415. *Oxide of Zinc.*

R. Zinci Oxidi, gr. 25—40; Extracti Anthemidis, gr. 30. Make a mass, divide into twelve pills, and order one to be taken twice a day. *In chorea, hysteria, &c.* DR. GOLDING BIRD *entertained an opinion that zinc has a specific influence on the nervous system, just as iron has on the blood. The dose may be gradually increased until twenty or even thirty grains of the zinc are taken in the day. It can sometimes be advantageously combined with opium.*

416. *Zinc, Bark, and Glycerine.*

R. Zinci Sulphatis, gr. 12—20; Tincturæ Cinchonæ Compositæ, fl. oz. 1; Glycerini, fl. drs. 12; Aquam Menthæ Piperitæ, ad fl. oz. 8. Mix. One-sixth part three times a day. *During convalescence from acute disease, especially where there is emaciation, with great nervousness and constipation.*

417. *Phosphorus Pills and Capsules.*

R. Micæ Panis, gr. 60; Aquæ Destillatæ, sufficient to make a mass. Then add—Phosphori, gr. 1; mix thoroughly, divide into twenty pills, and order one to be taken thrice daily after food.

Phosphorus pills and phosphorus capsules, in which the phosphorus is defended from the rapid oxidation to which it is liable, are prepared by several houses, and may be obtained through most chemists. Of these the capsules or pearls, which contain $\frac{1}{30}$ or $\frac{1}{100}$ of a grain of phosphorus dissolved in oil, are by far the best. One may be taken twice or three times a day after food. *In extreme debility and mental depression. In neuralgia and angina pectoris. After cholera, diphtheria, &c.*

418. *Phosphorus with Oil; Tincture of Phosphorus.*

R. Phosphori, gr. 1; Olei Morrhuæ, fl. oz. 6. Mix. One or two teaspoonfuls three times a day, immediately after food. *In tuberculosis, rickets, scrofula, &c.*

R. Phosphori, gr. 1; Olei Amygdalæ, fl. oz. 3. One teaspoonful in a wineglassful of barley water three times a day.

R. Phosphori, gr. 1; Alcohol, fl. drs. 5; Glycerini, fl. oz. $1\frac{1}{2}$; Spiritûs Vini Rectificati, fl. drs. 2; Spiritûs Menthæ Piperitæ, fl. dr. $\frac{1}{2}$.

Dissolve the Phosphorus in the Alcohol by the aid of heat; warm together the Glycerine and Spirit of Wine. Mix while hot, and add the Spirit of Peppermint on cooling; fl. dr. 1 contains gr. $\frac{1}{12}$ of Phosphorus.

419. *Hypophosphite of Soda.*

R. Sodii Hypophosphitis, *vel* Calcis Hypophosphitis, gr. 30—90; Infusi Chiratæ, fl. oz. 8. Mix. One-sixth part three times a day. *In phthisis. In progressive locomotor ataxy*, this mixture may be tried, together with a pill containing Nitrate of Silver (F. 59) with each dose.

R. Sodii Hypophosphitis, gr. 80—240; Spiritûs Ætheris, fl. oz. 1; Tincturæ Sumbulis *vel* Tincturæ Cinchonæ, fl. oz. 2; Aquæ, fl. oz. 8. Mix. One dessertspoonful in a large wineglassful of water three times a day. *In epilepsy, hysteria, neuralgia, some forms of hypochondriasis, &c., this mode of administering phosphorus may be useful. The dose at first should be moderate and then gradually increased. In very obstinate or severe cases of neuralgia, a cure may perhaps be effected by the hypophosphite of soda in forty or even sixty grain doses, repeated thrice daily, when the ordinary quantities have no effect. When no appreciable benefit ensues in five or six days, the remedy will probably prove useless however long it may be continued.*

420. *Preparations of Pepsine and Pancreatine.*

The physician is sometimes hindered in the administration of tonics and cod liver oil and animal food by the inability of the stomach to digest them. And this frequently happens when these restoratives are most needed,—in cases of degeneration of tissue, in lingering illness, and during convalescence from acute disease.

The food is subjected in the stomach to the action of the gastric juice; a secretion consisting of water, probably of lactic and hydrochloric acids, and of an azotized substance having the nature of a ferment—pepsine. When from any cause the secretion of the gastric glands is deficient or arrested, recourse may be had to the use of artificial pepsine with great advantage. This substance is usually prepared from several rennet bags (the fourth stomach of the ruminants) by washing them, and scraping off the mucous membrane. The latter is then reduced to a pulp, macerated in distilled water for twelve or twenty-four hours, and filtered. A sufficiency of acetate of lead is added to the liquor, the precipitate is collected, and a current of sulphuretted hydrogen passed through it. Then it is again filtered, evaporated at a low temperature, and the dry residue (pepsine) powdered.—The chief symptoms which call for the use of this agent, are—imperfect or slow digestion, with flatulence, acid eructations, nausea, low spirits, and lassitude; diarrhœa, with portions of undigested food in the evacuations: phthisis, cancer and other diseases attended with great debility; and affections of the stomach itself,—as gastric ulcer, malignant disease of the pylorus, &c. It is also beneficial in anæmia and chlorosis, in habitual constipation, want of appetite, offensive breath, dilated stomach, morbidly fetid stools, and sometimes in the sickness of pregnancy.

Pepsine should be given alone, or it may be mixed with certain medicines without its properties becoming deteriorated. Thus, when severe pain follows the ingestion of food the sixth of a grain of morphine can be added to each dose; when there is pyrosis, fifteen grains of the white bismuth; when the peristaltic movements are sluggish, the twentieth or twenty-fifth part of a grain of strychnine; and when there is anæmia, some preparation of steel—particularly the reduced iron, or the citrate of iron and quinine. It is a common occurrence for patients to be enabled to assimilate ferruginous tonics and cod liver oil by the aid of pepsine, who cannot do so without.

There are several preparations of this agent which may be used, and the digesting of food *before* administration is now largely resorted to. Zimine, gr. 5—30, bicarbonate of soda, gr. 15—20, accomplishes this most conveniently. The larger quantity named would be required for four ounces of lean meat, while the smaller quantity would peptonise a pint of milk.

The preparations of pepsine and pancreatine of MESSRS. MORSON, BULLOCK & REYNOLDS, BENGER, or FAIRCHILD, are most to be recommended, and of late years the last two have been extensively used. Directions for peptonising various foods are prepared by these firms in a printed form and sent to members of the profession, so that full details need not be given here. A few will be found at F. 4*a*.

The pancreatic juice has for its chief purpose the emulsification of the fatty constituents of food, and when there is difficulty in the digestion of fats, or when from diseases of the pancreas or obstruction of its duct, the pancreatic juice does not reach the duodenum, so that unchanged fat appears in the stools, pancreatine has been given, or fatty matters already subjected to the action of this substance. The following emulsion of cod liver oil and pancreatine is recommended :—

Pancreatini Saccharati, oz. 1 ; Aquæ, oz. 4 ; Sacchari Albi, oz. 7 ; Ol. Morrhuæ, O. $1\frac{1}{2}$; Ol. Gaultheriæ, min. 20 ; Ol. Amygd. Amar., min. 5.

The pancreatine is rubbed with the sugar and water ; the syrup then mixed with the oils. A little lime water may be substituted for part of the water.

A pancreatic emulsion of solid fats is prepared by MESSRS. SAVORY & MOORE.

DR. W. ROBERTS, F.R.S., of Manchester, highly recommends the Liquor Pepticus (Benger) and the Liquor Pancreaticus (Benger), prepared by MOTTERSHEAD & CO., of Manchester, as being highly efficient agents for promoting digestion. The former should be given in a dose of one or two teaspoonfuls in half a wineglass of water immediately after a meal ; the latter in the same quantity with a pinch of Bicarbonate of Soda in a wineglass of water about two or three hours after a meal. See also F. 4*a*.

Ingluvin, lactopeptine, and various preparations of malt are also useful in assisting digestion.

XVIII. UTERINE THERAPEUTICS.

421. *Ferruginous Emmenagogues.*

℞. Ferri et Ammonii Citratis, gr. 40 ; Tincturæ Nucis Vomicæ, fl. dr. 1 ; Infusi Quassiæ, fl. oz. 8. Mix. One-sixth part three times a day. *In amenorrhœa with a torpid circulation.*

℞. Ferri Sulphatis Exsiccati, Potassii Bicarbonati, āā gr. $2\frac{1}{2}$; Syrupi, q.s. (Blaud's pill.) *Of value in anæmia and chlorosis.*

℞. Pilulæ Ferri Carbonatis, gr. 30 ; Pilulæ Cambogiæ Compositæ, gr. 15 ; Olei Sabinæ, min. 12. Make a mass, divide into twelve pills, and order two to be taken twice a day. *In amenorrhœa with anæmia and habitual constipation.*

℞. Ferri Valerianatis, gr. 18 ; Olei Sabinæ, min. 24 ; Extracti Aloes

Barbadensis, gr. 6; Pilulæ Assafœtidæ Compositæ, gr. 36. Mix thoroughly, and divide into twelve pills. One to be taken three times a day. *In amenorrhœa with hysteria.* See F. 412.

℞. Tincturæ Ferri Perchloridi, fl. drs. 1½; Potassii Chloratis, gr. 60; Tincturæ Acteæ Racemosæ, fl. drs. 4; Infusum Serpentariæ, ad fl. oz. 8. Mix. One-sixth part three times a day. *In debility, with imperfect menstruation, pains in the back, and an irritable condition of the buccal or gastric mucous membrane.* See F. 320.

422. *Stimulant Emmenagogues.*

℞. Extracti Ergotæ Liquidi, fl. drs. 3; Tincturæ Serpentariæ, fl. drs. 6; Tincturæ Nucis Vomicæ, fl. dr. 1; Decoctum Aloes Compositi, ad fl. oz. 8. Mix. One-sixth part early every morning. *In amenorrhœa dependent on simple atony of the uterine organs.*

℞. Potassii Permanganatis, gr. 18; Unguenti Kaolin, q.s. Mix, and divide into twelve pills. Coat. One to be taken three times a day. *In amenorrhœa with anæmia.*

℞. Olei Rutæ, min. 15; Extracti Ergotæ Liquidi, fl. drs. 2; Mucilaginis Tragacanthæ, fl. oz. 8. Mix. One-sixth part three times a day.

℞. Boracis, gr. 60; Tincturæ Ergotæ, fl. drs. 4; Aquæ Cinnamomi, fl. oz. 8. Mix. One-sixth part three times a day.

℞. Extracti Aloes Aquosæ, gr. 6—12; Extracti Nucis Vomicæ, gr. 6; Capsici, gr. 3; Extracti Hyoscyami, gr. 24. Mix, and divide into twelve pills. Pearl coat. One to be taken every night at bedtime. *In amenorrhœa with torpid action of the bowels.*

℞. Liquoris Strychninæ, min. 30; Tincturæ Ferri Perchloridi, fl. drs. 1½; Tincturæ Acteæ Racemosæ, fl. drs. 4; Infusum Quassiæ, ad fl. oz. 8. Mix. One-sixth part three times a day.

℞. Podophylli Resinæ, gr. 6; Extracti Hyoscyami, gr. 24; Extracti Nucis Vomicæ, gr. 4; Pilulæ Aloes et Myrrhæ, gr. 30. Mix, and divide into twelve pills. One to be taken at bedtime for three or four nights in succession. *Where the menstrual flow is scanty, and the liver sluggish.*

422*a*. *Uterine Hæmostatics.*

See 103, 104, 105, 117.

423. *Medicated Vaginal Pessaries.*

℞. Plumbi Iodidi, gr. 80; Extracti Belladonnæ, gr. 24—40; Extracti Conii, gr. 100; Olei Theobromatis, oz. 1—1½; Olei Olivæ, fl. drs. 2. Mix. Melt into a mass with gentle heat; and pour it into a tube or roll of paper, about eight inches long and of the circumference of the little finger. Divide into eight pessaries, and order one to be introduced into the vagina every night or every other night. *In chronic inflammation and induration of the labia uteri, in oöphoritis, and chronic cystitis.* This is a very dirty remedy. The patient should be cautioned to wear a pad of absorbent wool and a diaper.

℞. Unguenti Hydrargyri, gr. 80—150; Olei Theobromatis, oz. 1—1½; Olei Olivæ, fl. drs. 2. Mix. Divide into eight pessaries. Where there is tenderness of the cervix uteri, or of the ovaries, thirty grains of Extract of Belladonna or one hundred grains of Extract of Conium should be added to the mass.

℞. Iodoformi, gr. 80; Olei Theobromatis, oz. 1; Glycerini, fl. drs. 2. Mix. Divide into eight pessaries. The smell of iodoform renders these pessaries very unpleasant to many patients.

℞. Atropinæ, gr. $\frac{1}{20}$; Cocainæ Hydrochloratis, gr. 1; Olei Theobromatis, drs. 2. Mix, for one pessary. *To relieve pain in or near vagina.*

℞. Plumbi Acetatis, gr. 20; Extracti Opii, gr. 24; Olei Theobromatis, oz. 1; Glycerini, fl. drs. 2. Mix. Divide into eight pessaries, and order one to be used every night. *In chronic leucorrhœa, acute and follicular vaginitis, &c.*

℞. Zinci Oxidi *vel* Bismuthi Carbonatis, gr. 80, *vel* Boracis, gr. 120; Extracti Belladonnæ, gr. 40; Olei Theobromatis, oz. 1; Olei Olivæ, fl. drs. 2. Mix. Divide into eight pessaries. *In the same cases as the preceding. Where an emollient is required.*

℞. Cocainæ Hydrochloratis, gr. 24; Olei Theobromatis, oz. 1. Mix, and divide into eight pessaries. *In painful affections of vagina and cervix. Often used in obstetrics.*

℞. Acidi Tannici, gr. 120; Olei Theobromatis, oz. 2; Glycerini Acidi Carbolici, fl. drs. 3. Mix. Divide into eight pessaries, and order one to be used twice a week. *In prolapsus uteri with relaxation of the vaginal tissues, as well as in uterine hæmorrhage, in chronic metritis, and in menorrhagia.*

Other pessaries are made each containing a drachm of Oil of Theobroma, and one of the following:—Iodide of Potassium, gr. 10; Alum, gr. 15; Gallic Acid, gr. 10; Acetate of Lead, gr. 7; Carbolic Acid, gr. 2; Atropine, gr. $\frac{1}{20}$; Morphine, gr. $\frac{1}{2}$.

424. *Medicated Uterine Pessaries.*

℞. Acidi Tannici, Olei Theobromatis, āā oz. $\frac{1}{2}$. Mix. Divide into eight pessaries, each having the diameter of an ordinary stick of nitrate of silver. *In uterine hæmorrhage, with a patulous condition of the os uteri, one of these pessaries may be introduced up the canal of the uterus and left there. It soon dissolves and coats the lining membrane with the tannin.*

℞. Aluminis, gr. 80; Zinci Sulphatis, gr. 40; Olei Theobromatis, oz. $\frac{1}{2}$. Mix. Divide into eight pessaries, as in the preceding formula.

425. *Vaginal Injections.*

℞. Zinci Sulphatis, Aluminis Exsiccatæ, āā oz. 1; Acidi Tannici, oz. 2. Mix. Label,—"One teaspoonful to be mixed with a pint of tepid water to form an Injection." *In leucorrhœa, gonorrhœa, &c.*

℞. Zinci Chloridi, gr. 160; Aquæ, fl. oz. 3. Mix. Label,—"One teaspoonful to be mixed with a pint of cold water to form an Injection. To be used night and morning." *In gonorrhœa.*

℞. Liquoris Plumbi Subacetatis, fl. oz. 6; Extracti Papaveris, oz. 2. Mix, and label,—"One large teaspoonful to be mixed with a pint of warm or tepid water to form an Injection." *In cases of leucorrhœa, with an irritable condition of the os uteri or vagina.*

425*a*. *Uterine Caustic and Stimulating Applications.*

The *thermo-cautery* and *galvanic cautery* have largely superseded the use of other strong caustics, such as of Caustic Potash, and Chloride of Zinc points, though these are sometimes used in cancer of the cervix —*see* F. 195—196, &c. Bromine, min. 5; Alcohol, fl. dr. 1, was a favourite remedy in these cases, and if used after the manner and with the precautions adopted by the late DR. WYNN WILLIAMS, it is still to be commended in cases too far advanced for amputation of the cervix, but not beyond treatment.

Acid Nitrate of Mercury is a valuable and safe remedy to apply in those cases of endometritis where it is desirable to get rid of an unhealthy uterine lining. It is applied once or twice on a probe wrapped with wool, with ten days' interval. The os and cervix must be patulous. It answers the purpose of curetting, and without the necessity of previous dilatation, as the uterine canal is usually, in suitable cases, sufficiently open for the caustic application, but not for curetting.

The milder applications used during the healing process are :—Nitrate of Silver, solid or in solutions, fl. dr. 1 in oz. 1. Carbolic Acid, liquefied. Phenol Iodatum—Iodine, gr. 40; Liquefied Carbolic Acid, oz. 1. Iodine in solution—Iodine, fl. dr. 1; Iodide of Potassium, gr. 30; Sp. Rect., oz. 1. Sulphate of Copper, gr. 20—oz. 1. Ehrendorfer's Iodoform Bougies, each containing five grains, may sometimes be passed into the uterus and left with advantage. Sulphate of Zinc points may be used in the same way.

426. *Sponge Tents, &c.*

For the purpose of dilating the mouth and cavity of the uterus, the female urethra, a strictured rectum, or a contracted orifice of the male prepuce, the sponge tents introduced into obstetric practice by SIR JAMES SIMPSON are sometimes used. A metallic director, somewhat resembling the uterine sound, with a sharp point, is needed for their introduction up the uterine canal; while their removal is accomplished by pulling the tape. A fresh tent must be introduced every twenty-four hours, until the tissues are sufficiently dilated to allow the finger to explore the cavity of the uterus.

DR. SLOAN, of Ayr, has suggested the use of the dried stem of the sea-tangle (*Laminaria digitata*) as a substitute for sponge. The stem of this common marine plant is cylindrical, soft, flexible, firm, and capable of being greatly reduced in size by drying. On subsequently being supplied with sufficient moisture it dilates to at least three or four times its size. The tangle tents produce equable dilatations, are in all respects very efficient and cleanly. They are more easily introduced into the uterus than the sponge tents, but they are also more liable to slip out again when the pressure of the finger is removed. A tampon smeared with Iodiform, dr. 1; Ol. Eucalyptus, dr. 1; Vaseline, oz. 1, should be passed up to the cervix to prevent this and to keep the parts sweet.

Hegar's and Duncan's graduated dilators have almost superseded tents for all dilating purposes.

427. *Galactophora and Galactophyga.*

a. GALACTOPHORA [Γάλα = milk + φέρω = to bear], or GALACTAGOGUES [Γάλα + ἄγω = to drive out], are remedies which increase the secretion of milk. Defective lactation is not common amongst healthy mothers, but with the weak and delicate it is very frequent. When it arises amongst the first it is generally due to overfeeding; when amongst the second, anæmia is its cause. In either class, a torpid condition of the mammary gland may be its source

Defective lactation from plethora will be best treated by purgatives, the most efficient being castor oil. All kinds of beer, wine, and spirits are to be prohibited. Animal food is to be allowed; with vegetables, bread, tea, &c. A mixture of milk and soda water, in equal parts, forms an excellent drink in these cases. The patient is not to be weakened; but she should be cautioned against the vulgar error, that a large quantity of food is necessary, simply because she is nursing. Pilocarpine has been found useful.

Defective lactation from anæmia is not uncommon. When the weakness is not such as to forbid suckling, the health ought to be improved by animal food; by a fair allowance of ale or porter or wine; and by taking milk, or cocoa made with milk, instead of tea and coffee. A raw egg beaten up in a tumblerful of milk, once or twice a day, will do good. Then ammonia and bark (F. 371) may be given, or some non-astringent ferruginous tonic (F. 403, 405); or cod-liver oil.

Defective lactation from torpor of the mammæ is the most frequent variety. In these cases benefit will be derived from irritating the gland and nipple—as by the careful use of the breast pump; by drawing out the nipple several times with the fingers, before the infant is applied; by passing an electric current through the gland, for fifteen or twenty minutes daily, for several days in succession; or by the application of a hot carrot poultice, during some hours daily. The breasts are to be kept warm. Moderate sexual intercourse is also useful.—Beef and mutton, game and poultry, white fish, oysters, stewed eels, potatoes, parsnips, lettuce, carrots, turnips, &c., will increase the secretion. There is no objection to stout, or to any other kind of malt liquor, provided the stomach can digest it; while from one to two pints of cow's milk should be allowed daily.

Sore nipples may indirectly be the cause of defective lactation. They may be avoided by frequent bathing of the nipples for some weeks before labour with Tannin, gr. 3; Rose Water, oz. 1; or Eau-de-Cologne or Gin and Water, equal parts. Slight excoriations, as well as chaps and fissures, can generally be healed by the use of an ointment of balsam of Peru (F. 306), or by a lotion containing borax and glycerine. If nursing is to be continued, the application must not be poisonous nor have an objectionable taste. Frequently drying the nipple with a soft rag, and then dusting it with spermaceti which has been finely powdered by the aid of a few drops of proof spirit, will be found exceedingly efficacious. Where the fissures are deep, light cauterization with nitrate of silver often answers well; or the painful spots may be painted with collodion, leaving the summit of the nipple free for the escape of the milk. The pain of fissure may be relieved by application of a 10 p.c. solution of cocaine. A well-made shield, provided with an artificial nipple, will often enable a woman to suckle who would otherwise be unable to do so. The child's mouth must be looked to, so that if there are aphthæ they may be cured.

β. GALACTOPHYGA [Γάλα = milk + φεύγω = to shun] are the remedies employed to arrest the secretion of milk.

Extract of Belladonna.—Reduced to the consistence of treacle, by the addition of a little glycerine or water, it should be freely painted over each breast, night and morning, the parts being also covered with wet lint and oiled silk, or with a cold bread and water poultice. At the same time, one quarter or one third of a grain of the extract may be administered twice or thrice daily, or Liq. Atropinæ Sulphatis, min. 1

to 4, if a speedy effect be desirable. Sometimes it is advantageously given with quinine and camphor (F. 383).

Iodide of Potassium often succeeds, and is particularly useful if there be any painful engorgement of the glands. Six or nine grains daily, in divided doses, should be administered. Occasionally it may be better to give about ten minims of the tincture of belladonna with each dose; or the iodide can be combined with an active purgative salt, as the sulphate of magnesia (F. 31).

Colchicum has not succeeded well in the Author's hands when given alone. But combined with the sulphate of magnesia, in the proportion of twenty minims to sixty grains, administered two or three times a day, it has appeared serviceable.

428. *Aphrodisiacs and Anaphrodisiacs.*

α. APHRODISIACS ['Αφροδίσια = venery] are medicines which excite or increase the sexual powers.

The only remedies which may truly be supposed to act as sexual stimulants are the various preparations of *Iron, Strychnia and Nux Vomica, Quinine, Cantharides, Arsenic, Phosphorus,* and stimulating quantities of *Alcohol.*

β. ANAPHRODISIACS ('Α, priv., + ἀφροδίσια, venery) are generally believed to have the power of repressing the sexual feelings.

Nauseants (*Tartarated Antimony* and *Ipecacuanha*), drastic purgatives (*Elaterium, Jalap, Calomel, &c.*), *Camphor,* and the Bromides in large doses, *Carbonate of Soda, Hemlock, Tobacco,* probably possess anaphrodisiac properties.

XIX. ELECTRO-THERAPEUTICS.

Three forms of Electricity are used in medicine—

1. That of *quantity:* produced by chemical action and obtained directly from a battery, regulated by the number and size of the cells, and called the Continuous, Voltaic, or Galvanic current—often erroneously termed the "constant" current.

2. That of *intensity:* produced by induction either from a magnet or a galvanic current, by long coils of insulated wire, and called the Induced, Faradic, or Interrupted current, or Magneto-electricity.

3. That of *highest intensity:* produced by the frictional machine, and called Static, Franklinic, or Frictional electricity.

Galvanism, or the continuous current, is rarely applied without intermission, which is usually obtained by the rhythmical removal of one of the conductors from the skin, or by means of a commutator. The intensity of a single cell of any form or chemical arrangement is quite insufficient to overcome the bad conducting power of the human body; therefore, when employing currents direct from the battery, many cells must be used, and as many as 50 or 60 should be contained in an apparatus intended for a variety of diseases.

The usual methods of applying electricity are *direct and indirect localized* electrization. In the former the rheophores, or current-bearers, are placed directly upon the organ, a muscle usually, to be Faradized or Galvanized. (If the latter, one of the rheophores must be removed and replaced on the skin at regular intervals.) And it is well to moisten the sponges of the moist rheophores with salt and water; this solution, being a better conductor than water alone, facilitates in a great degree the passage of the current to the deeper parts.

In *indirect electrization*, two points in the course of a nerve are selected for the rheophores, and the current is thus made to affect the part supplied by the nerve.

A form of treatment called *General Electrization*, has been introduced by DRS. BEARD and ROCKWELL (New York, 1871), on the principle that "Electrization, besides being a local stimulant, exercises an influence over general and local nutrition entitling it to the highest rank among constitutional tonics." The American practitioners generally appear to combine much rubbing and shampooing with their Faradism and Voltaism. The method under consideration consists in placing the patient with his feet naked upon a sheet of copper connected with one pole, while the other pole is connected by a moistened sponge with the left hand of the operator, who passes his disengaged hand over the muscles of the patient, and sometimes over the whole body.

Great caution is necessary, more especially with the continuous current, in applying electricity to the spinal cord or brain; and before electricizing any part of the body, it is well to place the electrodes on some analogous part of the operator's surface. Nevertheless, the effect of a current differs greatly, as there is idiosyncrasy with respect to this as to other remedial measures.

DUCHENNE and others lay great stress upon Faradizing every bit of a muscle, either with a rheophore of large surface, or by carrying the sponge over its whole extent. The olivary conductors are useful for small muscles, as the interossei and facial muscles.

The *differences* in action of the *continuous* and *induced* currents are due to—

(1.) The higher tension of the induced current, which enables it to overcome great resistances, and reach deep muscles and nerves.

(2.) The greater quantity of the continuous current gives it more chemical power; the Faradic current, as well as the continuous, decidedly affects nutrition by its action on the smaller arteries, and by inducing movements which produce tissue changes. (DUCHENNE.)

(3.) The direction of the continuous current is uniform, the induced current changes constantly, and

(4.) The continuous current flows in a regular stream as long as contact is maintained, the induced current lasts for a small fraction of a second. Partly due to this, probably, is the fact pointed out by M. CYON, and more recently by DR. POORE, that a continuous current passing through a group of healthy muscles enables them to make unusually strong and protracted action. (*Practitioner*, Jan. 1873.)

Electricity in Diagnosis.—The main point on which the value of electricity in determining the locality and nature of disease depends, is the behaviour of muscles with the Faradic and Voltaic currents.

The apparatus of each kind should be reliable in operation, and capable of having its strength easily controlled. Begin by placing the conductors of a moderately strong Faradic current on a muscle of the sound side, and decrease the strength until the point is reached at which contraction can only just be excited. The next step is to examine in the same manner the contractility of the diseased side. Next compare the results of Faradizing the healthy and diseased sides by passing the current through the nerve trunk supplying the muscle before examined. When the galvanic or continuous current is used in this way, care must be taken in every trial to place the positive conductor nearest the centres, and to make the interruptions at the same rate in each case.

In *hemiplegia*, early in the disease, the Voltaic and the Faradic contractility will be found to be normal—if increased, there is central disease progressing, as in inflammatory softening, and electric treatment is contra-indicated. As time goes on, the paralysed muscles usually lose their contractility by degrees.

In *paraplegia*, due to disease of a segment of the cord only, which cuts off the part of the cord below the damaged point from the brain, but leaves the paralysed muscles in relation with healthy cord, the condition of the paralysed muscles will be similar to that found in hemiplegia; Voltaic and Faradic contractility will be normal till impaired by long disuse, but there will in addition be excessive reflex action.

If the *paraplegia* is due to disease of the entire portion of the cord corresponding to the paralysed parts, we have the condition sometimes called *spinal paralysis*, in which there is lessened contractility, Voltaic and Faradic. This condition is also present in muscles supplied by the nerves which arise from a diseased segment of the cord.

In *peripheral paralysis*, due to disease in the course of a nerve, cutting off the muscles from the nerve cells of the spinal cord, or to an affection of the peripheric extremities of the nerves, the muscles contract more readily than usual with the Voltaic, but not so well, or not at all, with the Faradic current. This is called the *reaction of degeneration*. The explanation of it is, that the Faradic current excites the muscles indirectly through the peripheral extremities of the nerves, which are here affected, and therefore incapable of communicating the impulse to the muscle; while the Voltaic current acts directly on the muscular fibres.

In *lead paralysis*, the reaction of degeneration just mentioned is met with; the response to Faradism fails before the will has lost its control, but the Voltaic current acts with increased strength at this period, and the contractility remains after the voluntary power of moving the muscle is gone, and when atrophy has commenced.

In *infantile paralysis*, attributed to inflammation of the anterior grey cornua of the spinal cord (*poliomyelitis anterior*), but not improbably due to an affection of the periphery of the nerves, the loss of Faradic contractility is very sudden, and is usually complete in about four days (BARWELL). A Voltaic current produces a marked reaction at first, but even when of great strength, will fail, after the disease has lasted some time, to produce any effect; it should be applied to the part affected perseveringly as long as the slightest contraction is produced, and it may even restore contractility when it has been lost

In *rheumatic* and in *hysterical paralysis* contractility is usually normal, but in the latter the muscular sensation is nearly lost. Frequently rapid recovery takes place after Faradization.

In *progressive muscular atrophy*, any muscular fibres which remain retain their electrical susceptibility; diminished electrical reaction follows, and denotes the gradual destruction of the muscles.

In the recognition of *feigned disease*, much assistance may be obtained from a powerful induction apparatus.

DISEASES IN WHICH ELECTRICITY IS OF VALUE.

In *cerebral disease* Faradism is never to be used to the head. The Voltaic current from 5—18 cells may be applied axially by placing one electrode on the lower part of the spine, and the other at the back of the head; or transversely, by placing one conductor on each temple, or one on the forehead and the other on the occiput: and slow intermissions are to be made.

Melancholia, with stupor and refusal of food, in two cases under the care of DR. WILLIAMS, of Hayward's Heath Asylum, yielded at once to the use of a 40-celled Stöhrer's battery, and after a few daily applications both patients recovered. The number of cells here employed must be considered as exceptional. (*Lancet*, Jan. 25, 1873.)

In *softening*, *nervous exhaustion*, and *epilepsy* the continuous current has been of use. In the latter disease the negative conductor may be placed on the seat of the "aura," and the positive on the mastoid process.

In *hemiplegia* and *paralysis of cerebral origin* generally, no good can be done by muscular electrization soon after the attack, as a certain degree of irritability remains; and violent muscular tremors, to say the least, may result from Faradization.

When the proper time for treatment of the paralysed muscles has arrived, Faradize the whole of the surface of the organs affected, passing one of the conductors over every part of the muscles: the application should last from 5 to 15 minutes, and be repeated daily or every other day.

The end to be obtained by Faradization in hemiplegia, or other forms of cerebral paralysis, is to maintain or restore the conductility of the nerves and the contractility of the muscles of the paralysed regions which are liable to be impaired by prolonged disuse, so that as the nerve-centre recovers its function a path may be open for the first feeble impulses it is capable of issuing. When, therefore, after a proper interval, the reaction of the muscles to electrical stimulation, direct and indirect, is normal, and the paralysis still persists, further electrical treatment will be useless, as the cause is to be found in the character of the lesion of the nervous centre.

The nutrition of paralysed parts may be improved, as well as contractility restored, through the action of the current on the muscular walls of the bloodvessels.

Diseases of the Spinal Cord.—Tumours, severe injuries, sclerosis or softening of the cord, are not likely to be benefited by electrical treatment; but paralysis resulting from slight meningitis, or myelitis, anæmia, or exhaustion, will probably derive benefit from a Voltaic (15—30 cells) current applied by electrodes placed over the nucha and lower part of the back. Begin with few cells and increase the number as may be indicated. The results of syphilitic disease are amenable to electricity when the morbid process has been arrested, and the exudation removed by iodide of potassium. Electrical attention is to be directed to the peripheral expressions of disease.

Galvanization of the cervical sympathetic, of which so much has been said, is an extremely uncertain operation. It is recommended by MEYER in irregularities of temperature, heat in the skin of the head or face, coldness of extremities, &c., and in primary arterial spasm, apoplectic paralysis, progressive muscular atrophy, and neuralgias and spasms of the cerebro-spinal nerves. BENEDIKT also advocates this mode of treatment for intra-cranial diseases. From ten to twenty cells are to be used. The electrodes are small sponges, the positive pressed deeply into the fossa under the ear, while the negative is placed either on the sixth cervical spine, or over the sternal origin of the sterno-mastoid muscle. The application must at once be stopped if giddiness or sickness appears.

In *hysterical paralysis*, galvanize the spine, and Faradize with a wire brush the parts affected; a sponge electrode being placed over the spinal origin of their nervous supply.

Lead paralysis is treated by directly Faradizing the affected muscles, if they respond; but if not, a strong Voltaic current should be used—say 40 to 60 cells—attacking every part of the muscles, and using slow intermissions. When the Faradic contractility returns—as is usually the case after a few applications of the battery current—Faradism and Voltaism are to be employed alternately. Medical treatment must be continued at the same time.

Peripheral paralysis, dependent on a wound of a nerve, will not be remedied until the nerve wound is healed. The treatment should begin with Galvanism and be continued by Faradism when the muscles respond to this. In paralysis dependent on rheumatism, cold, or pressure, the induced current must be employed.

The treatment of *facial palsy* should begin early if it is of local origin or from cold, and usually the continuous current will be needed to produce muscular action. To produce an equable result, the treatment should be directed to each muscle affected, especially when using Faradism. When the affection arises from locomotor ataxy, or cranial disease, Voltaism only should be employed.

Paralysis of the Ophthalmic Muscles.—Put one conductor under the ear, or let the patient hold it in his hand, and let a small electrode or the finger of the operator who holds the other conductor in his hand, rest as near the muscle as possible, beginning with a weak Faradic current.

Paralysis of the Laryngeal Muscles.—Three methods of electrical treatment are applicable to these affections:—1. A gum elastic, metal-tipped conductor is to be passed down the pharynx, touching the back of the larynx, the second electrode being a wire brush applied to the front of the neck over the cricoid cartilage. Faradism is to be employed. 2. A proper laryngeal rheophore is passed with the aid of the mirror into the larynx itself; the second electrode being a sponge on the front of the neck or elsewhere. 3. Electrization by sparks from a frictional machine has been of great use in emotional aphonia.

Labio-glosso-laryngeal Paralysis.—The Faradic current should be applied by means of one pole placed on the nape of the neck; and the other to the inside of the lips, the tongue, and front of the neck.

Paralysis of the bladder requires Faradism by means of a peculiar electrode, consisting of a catheter, with a metal tip, the halves of which can be made to diverge after it is placed in the bladder; otherwise an electrode, shaped like a catheter, with a metal point, must be used, the second being the rectal rheophore in the rectum. The bladder should be empty.

Constipation, when dependent on muscular inertia, or disease of the spinal cord, may be relieved by a Faradic current, employed by means of a special conductor for the rectum, and a sponge applied to the abdomen or over the sacrum.

Impotency may arise from want of erectile power in the penis, in which case apply the Faradic current to the organ with a wire brush or sponge electrode. When the condition is due to deficiency of semen, apply Faradism by moist conductors to each side of each of the testes. Seminal emissions are in some cases restrained, or even checked, by applying the current from 10 to 15 cells to the veru montanum by one electrode, the second being placed on the perinæum, three times a week.

Priapism has sometimes been corrected by Faradization of the perinæum.

Progressive muscular atrophy has been successfully treated in many cases by MEYER and DUCHENNE, by Faradizing the sets of muscles as they are attacked, and galvanizing the nerve trunks of the parts affected.

In *locomotor ataxy*, Faradization is employed for the diplopia, and applied to the skin relieves the muscular pains. BENEDIKT and ONIMUS have galvanized the spine with benefit to some cases.

Chorea is best treated electrically by the continuous current: the positive conductor is placed over the muscles affected, the negative to the nerve supplying them; or the current may be passed from the affected parts to the upper part of the cord, the negative conductor being placed on the back of the neck.

Writer's Cramp.—In this disease, galvanization has appeared to be of service, or as in *torticollis* and *contraction of the splenius*, it may be advisable to Faradize muscles antagonistic to the affected ones. If there is tremor, "the positive charge" should be applied.

Shaking palsy, in recent cases, is to be subjected to the positive charge. Sometimes a powerful galvanic current is very useful.

Tetanus.—A current from 8 to 10 DANIELL'S has been applied, the negative pole being placed on the spine, the positive on the tetanic muscles. The effect is very doubtful.

DISEASES OF WOMEN.—The Galvanic or Voltaic current has been much used of late in the Diseases of Women, chiefly for treatment of uterine fibroids by electrolysis. The favourite batteries are those of Leclanché, Stöhrer, or Coxeter's silico-carbon, 40 or 50 quart cells being sufficient. A bougie-electrode of platinum with the vaginal part guarded is passed into the uterus, and either the clay pad recommended by APOSTOLI, or sheet-lead plate covered with sponge and wetted with salt solution, is placed on the abdomen or spine. The choice of situation for this electrode depends on which wall of the uterus is occupied by the tumour, as it is desirable that it should be between the two electrodes, which are of course united to the poles of the battery by wire. It is advisable to have two other appliances in the circuit, namely, a "collector" and a "galvanometer;" the former indicates the number of cells in use, and the latter, the strength of current that is passing.

The strength of current desirable varies from 50 to 250 milliampères as indicated by the galvanometer, and the number of cells used differs considerably owing to the resistance of the tissues between the electrodes, this again depending on the size and density of the tumour between the electrodes. It is never desirable to give a strength of current that causes much pain, and the exact amount required in each case is easily arrived at. There is always a slight shock in starting and stopping the current, but during the rest of the application scarcely any. This operation should be repeated about twice a week, the negative electrode being in the uterus. The positive pole is caustic, and may be used as a hæmostatic. It is sometimes useful in metrorrhagia, and to destroy diseased surfaces.

Great differences of opinion have been expressed as to the results and advantages of this treatment of fibroids. To say the least, it is a tedious and frequently very disappointing method. Under certain restrictions of diet, rest in bed, and properly regulated medical treatment, it is usual for a large proportion of cases to be considerably benefited, irrespective of electrolysis.

The treatment by puncturing tumours with electrolysis needles is distinctly dangerous, and has frequently proved fatal. These operations should be only undertaken by those accustomed to the handling of instruments for the treatment of uterine diseases.

The apparatus for electrolysis is cumbersome and expensive, and requires constant attention, and it cannot, therefore, be looked upon as a remedy for the many. It is undoubtedly useful in several of the minor ailments of women which are usually amenable to simpler remedies.

Galvano-cautery requires a different apparatus, which is portable, but somewhat expensive. It has some advantages over Paquelin's cautery, one of the greatest being that the écraseur wire can be applied cold round the pedicle of a tumour to be removed, before the circuit is closed, but the galvano-cautery is not so useful in Diseases of Women, as in other departments of surgery, more especially for operations about the larynx and nose.

In uterine polypi, if the pedicle is thick, the resistance is often too great for the current, and the cautery wire does not become hot enough to burn through the pedicle. In the case of smaller growths other methods are usually quite satisfactory, for they may often be cut off by a curved pair of scissors, and if there is bleeding it can be restrained by Paquelin's cautery and subsequent "plugging" if necessary.

Amenorrhœa is often successfully treated by Faradizing, or still better, galvanizing the uterus; one electrode being placed on the abdomen, and the other, either a sponge holder on the lumbar spines, or a rectal rheophore passed up to the cervix uteri. The former is preferable, and probably just as useful.

Menorrhagia is relieved by Faradization applied in the same mode, or passed from hip to hip, and from sacrum to pubis.

Uterine inertia.—The Faradic current may, in some cases, take the place of, or assist, ergot of rye. A proper uterine rheophore is passed up to the cervix uteri, and a moist sponge is placed on the abdomen.

Faradism of the *breasts* will often increase or restore the secretion.

RELIEF OF PAIN.—*Neuralgia* often yields at once, sometimes permanently, to the Faradic current. MEYER applies it curatively as the "Electric Moxa." A wire-brush electrode is held in one spot, and a very strong current used. Voltaism is most successful in this disease, however, and is applied with the negative pole, a moist sponge on the point of origin of the nerve affected, and another sponge electrode for the positive, placed on the painful spot, the time being determined by the amount of action on the skin, as it is undesirable to cause any soreness. Five or ten cells of a battery in good order will usually be enough for the face; ten to thirty, or a larger number, if necessary, for other parts of the body. A little moral influence may be useful in the treatment, as neuralgic patients are given to variety, and often abandon a remedial measure if not at once successful, before it has had a fair trial.

Sciatica requires the application of a Voltaic current from 10 to 30 cells; the negative on the lower dorsal spinous processes; the positive on the lower part of the thigh or leg.

Sick headache.—A continuous current, beginning with 5 cells, is used, the electrodes being placed on the mastoid processes.

Rheumatic pains in the muscles are relieved by Faradizing the dry skin with a brush or dry plate.

HYSTERICAL ANÆSTHESIA.—The best application is daily Faradization of the affected parts with a wire brush, the strength of the current to be increased to the utmost bearable limit. While increasing the power of a Faradic apparatus, it is well to keep the electrodes applied, always supposing that the operator is acquainted with the energies of his apparatus.

DEAFNESS.—Electricity, in the form of a slowly interrupted Faradic current, has done much good to old cases of nervous deafness. The meatus is filled with water, an electrode, insulated except at the tip, is passed in, and the other electrode is placed on the neck. The current must be weakened or discontinued if it cause giddiness.

Tinnitus Aurium.—This distressing affection has frequently been cured by both Voltaic and Faradic currents which should not be strong, one electrode being placed in contact with the membrana tympani.

ASPHYXIA.—Use electrodes with button-like metal tips, covered with wash-leather or sponge, and a Faradic current sufficient to cause contraction of the muscles of the ball of the thumb. Place one conductor on the side of the neck, outside the sterno-mastoid in its lower half, as in this place it will affect the phrenic nerve, the sterno-mastoid and the scaleni muscles, the other on the epigastrium; let the pressure last the length of an inspiration, then assist expiration by pressure on the abdomen. The strength of the current at first failing to excite contraction, increase it to the full power of the apparatus, and *that* failing, use Voltaism in the same manner. A double electrode would be advantageous, conveying the current to the two sides of the neck from one pole of the instrument, while the other pole is applied to the epigastrium or seventh intercostal space.

AORTIC ANEURISMS have in some cases been successfully treated by a current from a few cells of medium size. Various methods have been recommended. Needles insulated to within a short distance o fthe point are passed into the sac; according to some experimenters they should be connected with both poles of the battery, according to others with the negative pole only, the positive rheophore being a wet sponge placed on the skin near the aneurism; according to others again, the needle should be in relation with the positive pole. The object sought is the obliteration of the aneurism by the coagulation of the blood which takes place round the needle when the current is passing; the coagulum round the negative pole is large and loose, that round the positive small but more firm; it is not yet definitely known which best answers the purpose required. The current must be passed for some hours. Great pain is often excited, and the operation is not free from danger.

VASCULAR NÆVI are treated with remarkable success by inserting needles into the tumour, which are connected with the negative pole of the battery, the positive being formed by a wet sponge. By some operators needles connected with both poles are inserted.

HYDATIDS OF THE LIVER.—The current from ten cells was employed at Guy's Hospital, in some cases of hydatid cyst, and in eight instances proved very successful. Two needles from the negative pole were introduced into the tumour, and a moist conductor from the positive was applied to the skin of the abdomen. (*Med.-Chir. Trans.* London, 1871.)

It is not impossible that the good effects were due to displacement of the hydatid fluid by the gases disengaged.

In diseases of the *Ear*, *Nose*, and *Larynx* electro-cautery is valuable for destruction of morbid growths.

In stricture of *Urethra*, *Œsophagus*, and *Uterus*, electrolysis has also been used successfully.

It is said also to destroy superfluous hairs if a fine platinum needle is inserted into the hair follicle. After passing a mild current for a few seconds the hair can be readily drawn out.

XX. CLIMATES FOR INVALIDS.

429. *General Observations.*

It is of the first importance that the physician who is consulted with regard to a health resort for an invalid should prevent cases of far advanced disease from going abroad, when they ought to be kept at home; and next that a situation favourable to the particular malady is selected. It is often difficult to persuade the sick that simple change to another country is only one of the means by which they are to regain health. For although there can be no doubt that in change of air physicians have an efficient remedial agent, yet it is certain that this remedy, like all others, is not of indiscriminate application, but must be prescribed with judgment and discretion.

The diseases most likely to be cured or alleviated by the benign influence of change of climate are the following:—Pulmonary consumption; chronic laryngeal and bronchial affections; asthma; disorders of the digestive organs, with the various forms of dyspepsia; chronic gout and rheumatism; functional derangements of the sexual organs; affections of the kidneys; obstinate neuralgia; and hypochondriasis. A change is beneficial to strumous delicate children; is invaluable as a restorative during convalescence from acute or prolonged disease; and especially is it one of the chief resources of "preventive medicine." In incurable disease a visit to another part of the sufferer's country, or to some foreign station, will now and then serve to ward off complications, to give mental exhilaration, to promote appetite and digestion, and to be the source of tranquil nights.

There is no model climate: no country can boast of being perfect. Doubtless in some of the new towns about California remarkable climates are found. The luxuries on the Pacific side of North America are unknown to Europeans. Speaking of small towns near Placerville, SIR WENTWORTH DILKE says ("Greater Britain," p. 156), that except in the far interior or on the hills, "one even spring reigns unchangeably; every fruit and vegetable of the world is perpetually in season." All that the physician's knowledge and tact will enable him to do is to select that situation which possesses the greatest advantages and the fewest drawbacks for the particular case he has in hand. Phthisis, for example, is prevalent and fatal in all countries, though more so in some than in others. Moreover, it must be remembered, that through the peculiar nature of zymotic diseases, towns usually healthy are apt to be periodically visited by epidemics; and such places can only be avoided by consulting recent returns, or by instituting inquiries on the spot. In considering the sanative influence of any climate, our chief object must be to learn on how many days during the winter and spring months it may be expected that the invalid will be confined to the house by bad weather. If the number be at all large, he can just as well remain at home. To decide the point, the nature of the sick man's disease, and his constitutional strength, must first be determined. Then as regards any given locality attention must be paid to its aspect, its drainage, and its elevation above the sea level; to the temperature and its equability; to the dryness or moisture of the soil and atmosphere, a degree of heat being often well borne when the air is dry, which is quite unbearable when it is moist; and to the nature of the prevalent winds. The amount of rain which descends in a season is not of such moment as the way in which it usually falls; a region liable to sharp heavy showers being much more favourable for the invalid, than one where it drizzles—like a Scotch mist—for days together. Luxuriant vegetation, though agreeable to the senses, may merely mean high temperature combined with moisture; conditions not favourable for the phthisical. So also the districts where marshy lands abound, or where occasional inundations occur, are notoriously unhealthy; for the evaporation of the water lowers the temperature, while the decaying vegetable matter becomes the source of malaria.

The beneficial effects of sea-air are due to its purity, to the equability of its temperature, to the iodine it contains, and to the constant presence of ozone. The latter—the most powerful oxidising agent known—is a stimulant to all the vital functions; but if in excess, it causes great irritation, particularly of the organs of respiration. Ozone, found also in the air of mountainous and rural districts, has the property of decomposing iodide of potassium, uniting with the potassium and liberating the iodine, which latter body may be detected by starch. Hence, test-papers saturated with a solution of iodide of potassium and starch are employed; the iodine, when freed by the ozone, uniting with the starch and forming blue iodide of starch. While sea-air by its invigorating and other properties has a certain amount of influence in preventing tuberculosis, it is by itself insufficient to cure this disorder. Mountain-air is pure, has an average low temperature, and contains a large proportion of ozone. There is a diminution of atmospheric pressure, but more wind and moisture at high elevations. Speaking generally, mountain air is tonic and bracing: it improves the appetite, lessens anæmia, and especially promotes a healthy action of the abdominal viscera.

Although a classification of climates can only be artificial, and merely useful as affording a rough view of their nature, yet those countries mostly resorted to by invalids may be arranged in four divisions—viz., the relaxing, sedative, exciting, and bracing.

1. In the *relaxing* climates there is an elevated temperature with an excess of communicable humidity. They are unfitted for cases where we wish to restore diminished tone—to build up shattered constitutions; as well as for subjects with a tendency to hæmorrhage.

2. In the *sedative* climates we find a freedom from great dryness on the one hand, and from communicable humidity on the other. We should not select these where it is desirable to quicken a slow circulation, or where the secretions are too abundant.
3. In the *exciting* climates there is an excess of dryness, a highly electric state of the air, an excess of ozone, and during the early months of the year keen irritating winds. Such climates are injurious where there is nervous and vascular excitement, a tendency to inflammation, or where functional repose is needed.
4. In the *bracing* climates the winter temperature while comparatively high is not oppressive, the air contains a moderate proportion of ozone, there is a certain amount of dryness, and the winds are less irritating than in the exciting class. They are generally to be avoided where there is a very sensitive state of the system, a tendency to apoplexy from hyperæmia, and in many affections of the heart or large vessels. But, as a general rule, they are more suited to cases of pulmonary consumption, and to renal and hepatic diseases than either of the others.

Change of climate need not involve a long railway journey. It means removal from town to country, from inland to sea-shore or open sea, from the plain to the mountains or wooded districts, from cold to warm, from moist to dry, or *vice versâ.* The atmospheric conditions that are desirable are pure air, much sunshine, without extremes of temperature, and absence of violent winds.

The sea-shore has usually an equable climate, which is moist, and contains much oxygen and ozone. It increases the activity of respiration and circulation, and is stimulating. It is suitable for people convalescing, or suffering from mental or bodily over-work, provided they have good digestions, and are not liable to hepatic affections, nervous irritability, or diseases of skin.

Mountain climates, 1000 to 8000 feet, are usually of lower and less equable temperature, with less moisture than the sea-side, excite a freer circulation of blood, deeper and more frequent respiration, and greater ease of bodily movement. The appetite is increased and the body gains weight. They are particularly suitable for young people with narrow chests who are growing too fast, or with tendency to phthisis, and for those suffering from over-work, or convalescing from illness, but able to walk.

In wooded districts there is lower temperature and more humidity (rain and mist), the temperature is equable, and there is protection from wind. Pine woods are suitable for chronic bronchitis, emphysema, heart disease, and nervous diseases, especially when there are level shady walks.

The chief advantage of a *sea voyage* is ability to spend much time in a pure and equable atmosphere without fatigue. There are certain disadvantages on shipboard that have to be considered. Phthisical patients in an advanced stage should be dissuaded from taking a voyage.

In selecting a place for an invalid it is important to consider his or her temperament, whether quiet or lively, the length of purse, and the climate that most usually suits the patient. At many of the foreign places to be hereafter mentioned, English doctors, suitable food, and home comforts are not obtainable. Moreover, mountainous places are only desirable between May and September, while it would not be wise to remain in the South of Europe except between October and May.

When the locality to which an invalid is to resort has been decided upon, he should, on leaving home, be provided with a concise code of laws in writing; or he must be directed at once to consult a physician in practice at the town selected. His route had better be marked out for him; he should be cautioned as to the rate at which he is to travel; rules must be laid down as to the regimen he is to adopt; while he ought to be reminded that warm clothing, especially flannel, will be required. Frequently it will be better to have cheerful apartments, with a southern aspect, secured beforehand; so that at the end of his journey a few days' perfect rest may be enjoyed. The object of the tour ought to be clearly explained, while he is to be warned not to expect too much, especially at first. The physician in sending his patient abroad, is merely placing him in the position most favourable to recovery,—but still where other remedies and general precautions will be indispensable. Foreign travel would be more agreeable to most men, could the plague of sightseeing be dispensed with. But for the sick man to visit picture galleries, museums, damp old ruins, cold churches, &c., is frequently to frustrate the only object he should have in view—viz., the restoration of his health. In giving directions as to diet it must be recollected that travelling is very exciting and wearying to the invalid; that the organs of digestion almost always become more or less deranged; and that many articles of food which are taken with advantage in England, disagree in warmer latitudes.

The best time for leaving England is between the end of September and the middle of October. The patient with pulmonary disease ought not to return until May.

430. *Middlesex.*

LONDON.—This city, the largest and most healthy in the world, is bounded by moderate hills; has a soil of loam and gravel, with clay resting on a bed of chalk; and is some fifty miles from the sea to the south and east. The mean annual temperature is about 50° Fahr.: the average winter temperature being 38°, and that of the summer 63°. The nights especially are warmer than in the environs. The annual rainfall is 21.6 inches, the average number of days more or less wet being 178.

Delicate individuals are often better in London during the winter and spring, than in the country, owing to its greater warmth, and the greater steadiness of the temperature from day to day.—Asthma is such a precarious disease that it is impossible to say beforehand what particular climate will suit any special example of it. But it is certain that very many asthmatics are better and more free from attacks in a large city than in the clearer atmosphere of the country.

HAMPSTEAD is a healthy suburb of London, and stands much higher. From the heath, upwards of 200 acres in extent, there are many fine views. The air is pure and bracing, and well suited for children and convalescents. The low parts are damp, and should be avoided.

431. *Kent.*

MARGATE.—The tonic and bracing air of this familiar locality renders it a very valuable temporary residence for many invalids. The atmosphere is extremely pure, the soil is dry and absorbent, and the water-supply good. Perhaps no place could be named which is more suitable for restoring the health of children and young people afflicted with any form of scrofula. In strumous diseases of the joints, the most marked improvement usually results from a few months' stay at this town. The bathing is good; though the flatness of the sands may be a disadvantage to the adult.

The mortality among the residents is very low.—The season lasts from the middle of May until the end of September. Being open to the north and east, the air is very bleak during the late winter and early spring months.

RAMSGATE is much frequented in the summer, owing to its gaiety, facilities for sea-bathing, &c. It is an excellent residence for delicate children during the months of October and November, when the crowds of visitors have left. The climate is warmer than that of Margate, and more bracing than that of the south-coast watering-places.—BROADSTAIRS is situated in a pretty little bay about three miles from Ramsgate, and affords a very healthy and quiet sea-bathing place for children. The air is much less bracing than that of Margate.

DOVER.—This sheltered town is generally full in the summer and autumn. As a winter residence it is colder and more exposed to high winds than Hastings, but it is not therefore unsuitable for invalids who can bear a bracing air. In January the weather is often fine and invigorating, but decidedly cold. The easterly winds which prevail during March are very trying. May and June are very agreeable months, as are August, September, and October. The climate proves especially serviceable to those subject to strumous affections, chronic bronchitis, dyspepsia, nervous debility, congestion of the liver, &c.

FOLKESTONE.—The beautiful country in the neighbourhood, and the fine tonic air of this town, render it a most agreeable residence from the end of May until the beginning of November. Sufferers from dyspepsia, nervous irritability, and over-work will derive most benefit from this climate.—SANDGATE, about two miles to the east, offers a milder winter climate, with an exemption from fogs. The mean winter temperature is 41.76°. Consumptive and dyspeptic invalids, who find Brighton too bracing and Hastings too relaxing, may well winter at Sandgate, especially if they need quiet and seclusion.

432. *Sussex.*

HASTINGS AND ST. LEONARDS.—Situated about midway between Brighton and Dover, the climate of Hastings is very useful for invalids during the winter and spring months. Well sheltered from cold winds, with lofty cliffs and undulating downs, a beautiful and cultivated country, a dry and absorbent soil of clay overlaid with sand, a pure sea-air, and free from all sources of malaria, Hastings can be regarded as offering a healthy sedative climate during six or eight months of the year. The bathing also is good in the summer.—The mean annual temperature is 50°; that of winter being 40°, of spring 44°, of summer 60°, and of autumn 53°. The amount of rain in the year equals about 28.34 inches.

South and south-westerly winds are most prevalent during the winter and spring, but unless high they cause very little discomfort. In the neighbourhood are various springs impregnated with iron and carbonic acid, but they are not much used.

Hastings is suitable for cases of dyspepsia with loss of tone, chronic bronchitis, neuralgia, chronic rheumatism, gout, and scrofula. For the diseases of childhood it is a good locality. The Author has not seen phthisical subjects derive much benefit from it, however; and sometimes he has thought that it seemed to induce hæmoptysis.

Although Hastings and St. Leonards now form one town, yet the former is the warmer and more protected, and hence better suited for very delicate invalids. Such as find Brighton agree with them from October until the end of December, may often advantageously spend January and February at St. Leonards.

EASTBOURNE.—Filling, as it were, a chasm between two cliffs, one of which is Beachy Head, this watering-place has rapidly increased in importance. It is visited in the summer for sea-bathing; but is a good residence for invalids requiring a bracing air from September until the beginning of January. Cases of scrofula, consumption, hydrocephalus, and tabes mesenterica often derive benefit here. It is also to be recommended in functional disorders of the heart and nervous system.

BRIGHTON.—The climate is bracing and restorative, and is especially beneficial to invalids during the autumn and early months of winter. Although the town is sheltered on the north and north-east by the South downs, yet from the beginning of February until nearly the end of May cold north and easterly winds prevail, which prove very irritating even to the healthy. The annual fall of rain is 25.6 inches. The western is milder but more damp than the eastern cliff; but the tonic air of the latter agrees admirably where the circulation is torpid. The Old Steyne offers a climate intermediate between that of the western and eastern cliffs.

Diseases of a nervous hypochondriacal type are much relieved by the invigorating atmosphere of Brighton. Great good is also experienced when the vital powers are sluggish, when there is anæmia, or when disease of the kidneys exists. Strumous children and convalescents from acute disorders may also be sent to this part of the coast. It is unsuitable for individuals of an irritable or plethoric habit; for such as have a dry harsh skin, or any irritating cutaneous disorder; and for those who have a tendency to asthma, inflammatory affections, hæmorrhoids, &c.

WORTHING.—Lying twelve miles west of Brighton and with an aspect almost due south, this town is fully exposed to the sun's rays. It is sheltered from the hot winds of summer and the cold of winter by the South down hills, which have an average height of 600 feet. Hence it is warm in winter until the middle of February, and cool in summer; the air being neither too bracing nor too sedative. The mean temperature for the year is about 51°. The rainy days are fewer, and the quantity of rain that falls is less than at Ventnor or in the West of England. Occasionally the east and north-east winds render the air very bleak. During summer the fine sands afford excellent bathing.

Worthing can be recommended as a good residence for convalescents;

as well as for sufferers from lung diseases, whooping cough, scrofula, chronic rheumatism, and renal affections.

433. *Hampshire.*

SOUTHAMPTON.—At the head of the Southampton Water, which stretches from the Solent and Spithead into the interior of Hampshire for some eleven miles, is the clean and handsome town of Southampton. The climate is said to be mild and humid, intermediate in character between that of Devonshire and Hastings. Though sheltered by the high grounds behind it, and by the New Forest, yet it is unsuited for most invalids, the temperature being variable. The effluvia from the river at low water are often very unpleasant.

A short distance from Southampton Water is NETLEY. Here has been built the Royal Victoria Hospital; which is especially intended for the reception of invalid soldiers from foreign stations, and which has become the head-quarters of the Army Medical School. The site seems to have been well chosen; while in most respects the arrangements of the building are excellent.

BOURNEMOUTH.—This favourite watering-place, situated within a fine bay, is about ten miles from the western extremity of the Isle of Wight. It is well screened by hills and pine-woods from the north and north-east winds, but is exposed to the south-westerly gales. Owing to the nature of the soil, out-door exercise is practicable immediately after rain; while there are great facilities for easy walking. The mean annual temperature is 51.00°; that of winter being 42.38, spring 49.11, summer 60.18, and autumn 51.71.

It may be recommended as a quiet healthy resort, during the winter, for such invalids as are not affected by moderate variations of temperature, for those who are weak without having actual organic disease, and for persons returning from tropical countries. The climate is mild but not relaxing. During the spring and early summer months thick fogs and cold easterly winds are rather prevalent. In summer there is good sea-bathing; but the heat, and clouds of fine sand which rise when there is any wind, render Bournemouth unpleasant to many at this season.

434. *Isle of Wight.*

RYDE.—The towns on the north side of the island—Ryde and Cowes—are more suitable for summer visitors requiring change of air and occupation, than for invalids needing a dry atmosphere and repose. The air is mild. Although the attractions of both localities are great, yet in neither is the bathing good.

THE UNDERCLIFF.—This is the best part of the island for a winter and spring residence. The Undercliff extends from the village of Bonchurch to Black Gang Chine, a distance of six miles along the south-east coast. The scenery is romantic, sea fogs are rare except towards the end of May and during June, and both soil and atmosphere are dry; while it is well protected, by a range of lofty chalk and sandstone hills, from the north, north-east, north-west, and west winds. It is raised some fifty or seventy feet above the level of the beach; and may, therefore, be represented, in the words of SIR JAMES CLARK, "as a lofty natural terrace, backed by a mountainous wall on the north, and open on the south to the full influence of the sun from its rising to its going down, during that season at least when his influence is most wanted in a northern climate."—The mean annual temperature is 51.35°; that of winter being 41.89, spring 49.66, summer 60.63, and autumn 53.58. The mean annual fall of rain is 23.48 inches; whereas at Newport, in the centre of the island, it is 33.60.—The best season is from the beginning of November until the end of May: between August and October it is too relaxing and humid.

The Undercliff, of which VENTNOR is the chief town, may be resorted to by all those who need a genial and agreeable winter and spring climate. It allows the phthisical invalid to re-oxygenate his frame by almost daily exercise in the open air, at a season when he would be unable to do so at most other parts of England. The walks are fine and sheltered. The air is mild and yet of a bracing tonic character; and hence it differs from that of *Torquay*, which is of a more moist and relaxing nature. Patients with laryngeal and bronchial affections, hepatic and renal disease, atonic and nervous dyspepsia, and children with glandular swellings or strumous ulcers, do very well at this part of the island.

As a summer resort SANDOWN can be strongly recommended; its beautiful bay and open sea, its fine sands, its good bathing, its dry sandy soil, its good drainage, and its pure and abundant water supply being so many strong recommendations. For some few cases of disease not requiring a mild climate, Sandown may prove serviceable in the winter. The air is bracing as compared with that of Ventnor and Shanklin. The invalid can readily change from one of these spots to the other if necessary.

435. *Dorsetshire.*

POOLE.—Standing on a peninsula, this old-fashioned town is an agreeable place for such as have to be driven from books and business to quiet and idleness. Owing to geographical peculiarities in its position, the tides in Poole harbour ebb and flow twice in the twelve hours.

WEYMOUTH.—This town, with the adjacent MELCOMBE REGIS, is a favourite summer resort; the beautiful bay of the latter, with its fine sands, being well adapted for bathing. In the autumn and winter the temperature is equable; whilst the air is so pure that it is suitable for invalids from various diseases. Indeed, so healthy is the climate supposed to be, that DR. ARBUTHNOT is reported to have jocosely said,—"A physician could neither live nor die at Weymouth." As it is the nearest English port to Guernsey, seventy miles distant, it forms a station of the mailboats.

436. *Devonshire and Cornwall.*

BUDLEIGH SALTERTON.—A quiet retired village, nearly five miles to the east of Exmouth, in a small open valley on the sea-shore. For invalids who can climb the neighbouring hills it offers a mild and protected winter residence.

DAWLISH.—Resorted to in summer for bathing, Dawlish may be recommended as a winter resort for those needing a mild air. It is more humid than Torquay. Protected from northerly and south-westerly gales, it is still unfavourable in the spring owing to the biting east wind which finds access to the picturesque valley on either side of which this small town is placed.

EXMOUTH.—The new portion of this town stands high, and is much exposed to wind from every quarter. The old part lies along the margin of the river and the base of Beacon Hill, and is damp; though it has the advantage of being protected from south-westerly and northerly gales. Invalids who require a bracing air may be benefited here; but the cold variable weather in winter makes it unsuitable for those with pulmonary complaints.

SALCOMBE.—Well sheltered, this is said to be the warmest spot on the south-west coast. For such as seek a mild and equable winter temperature this small spot would be useful were it not for the want of convenient ground for exercise.

SIDMOUTH.—Recommended in summer and autumn for its bathing. Sidmouth is also a good situation for invalids requiring a mild relaxing air during winter. The mean annual temperature is 50.2°: that of winter being 41.9, of spring 47.5, of summer 59.9, and of autumn 51.6.—The soil of the town is gravel on red sandstone; the ground dries quickly after rain, so that the invalid can usually walk out on the Esplanade within half an hour of a heavy shower. The water supply is good.

TEIGNMOUTH.—The mean winter temperature is six degrees higher than that of London, while that of summer is five degrees lower. On account of its exposed position it is not suitable as a winter home for the sick.

TORQUAY.—The climate of this favourite locality, while mild and equable, is less humid than that of many other places on the south-west coast. It has a southern aspect, and is sheltered on all other sides by heights. Mean annual temperature 52.1°; the average for the winter being 44.0, spring 50.0, summer 61.2, and for the autumn 53.1. The average annual amount of rain is 35.20 inches, and it falls on about 175 days in the year. The season is from September to May; and though it is not absolutely necessary for the invalid to leave during summer, yet it will be better for him to do so. November is generally very fine, being bright and sunny.

Torquay is useful in many cases of phthisis, chronic bronchitis, laryngeal affections, and rheumatism. In heart disease, when this organ is oppressed without much lowering of the vital powers; in inflammatory dyspepsia, with an over-irritable condition of the mucous membranes generally; and for invalids returning from tropical climates,—this town may be recommended.

The climate has a soothing influence upon the organs of respiration; but the effect upon the nervous, digestive, and muscular systems varies according to the situation which the invalid adopts for his residence. DR. RADCLYFFE HALL recommends a feverish excitable consumptive patient to lodge in a sheltered part close to the sea, provided sea air does not disagree. When the feverishness is less marked, and there is danger from a sinking of the powers of life, a situation part way up the hills suits better; or the beautiful district of MEADFOOT, protected from the east and north-east by an extensive range of cliff, may be selected if close proximity to the sea be desirable. After a residence at the sea-level for a time, removal to the houses on the southern faces of the hills often proves useful.

ILFRACOMBE.—The fine and bold scenery of this town has attracted the attention of tourists during late years. Situated on the southern shore of the Bristol Channel, surrounded on three sides by the sea, Ilfracombe can be recommended to invalids who require a bracing air. The summers are comparatively cool; while the winters are warm and dry, but invigorating. Convalescents from tropical diseases often derive great good from wintering at Ilfracombe.

EXETER.—This fine old city, though standing upon elevated ground, is sheltered. Except during July and August (when it is close and relaxing) it offers an advantageous residence for invalids requiring a residence away from the sea. Its mean temperature in winter is 41.4°, spring 49.5, summer 62.0, and autumn 51.9. The average number of days on which rain falls in the year is 162, the annual amount being 31.90 inches.

Other neighbouring inland towns of Devonshire are agreeable and healthy:—KINGSBRIDGE, TOTNES, NEWTON ABBOTT, TIVERTON, CREDITON, CULLOMPTON, OTTERY, HONITON, &c. Of the moor towns it need only be said the air is moist and misty. DARTMOOR is bleak and chilly, the mornings and evenings even of summer being cold.

PENZANCE.—This seaport, on the north-west side of Mount's Bay in Cornwall, is about ten miles from the Land's End. The climate is mild, but relaxing. It has a mean annual temperature of 51.8°; the mean for the winter being 44.0, for the spring 49.6, for the summer 60.2, and for the autumn 53.3. As a winter residence for invalids it possesses the twofold advantages of warmth, and great steadiness of temperature during the day and night. The disadvantages are that it is much exposed to wind and storm, and that it is humid—the annual rainfall being 44.6 inches. It should be avoided in the spring.

Penzance may be useful in chronic bronchitis, in the earliest stage of consumption if there be a dry harsh cough with scanty expectoration, and in the case of aged invalids, who derive benefit from a warm moist atmosphere. It is injurious in phthisis with relaxation of the mucous membranes and copious secretion, in cases of hæmorrhage, in atonic dyspepsia, and in debility of a low nervous type.

LAND'S END.—The climate somewhat resembles that of South Devon, but as regards humidity and exposure to winds it is inferior to it. Invalids should not remain in this district during the winter and spring.

437. *Gloucestershire and Worcestershire.*

BRISTOL.—This city, situated chiefly in Gloucestershire, but partly in Somersetshire, has nothing to recommend it to an invalid.

CLIFTON.—Clifton is built on the sides and summit of a precipitous limestone hill, about one mile west of Bristol. In former days invalids resorted to this spot on account of its hot well: now it is in repute for its mild winter climate. The mean temperature for the year is 51.26°; that for the winter being 39.91, spring 49.79, summer 63.87, and autumn 51.49. The annual rainfall is 32.56 inches; and the number of rainy days about 169. The lower part of the town is much milder and more humid than the upper; and hence, while preferable during winter for many cases, is too relaxing in the summer. The loftier situations (such as York Crescent, with its southern aspect and sheltered sunny promenade) are beautiful situated and well adapted for invalids during the summer and autumn months.

The Hot Well lies at the foot of St. Vincent's Rock. It yields an abundant supply of water at about 75° F., containing small quantities of magnesia and lime, with an unusual amount of carbonic acid gas. Owing to the latter, it might perhaps be advantageously taken in dyspepsia with irritability of the gastric mucous membrane; but it is very rarely, if ever, employed medicinally.

MALVERN.—Perhaps there are few more healthy and pleasant spots in the kingdom for a summer residence than this. Built on the declivity of the Malvern hills, situated eight miles S.S.W. of Worcester, the scenery is all that can delight the convalescent, or the man who is broken down from over-work. The air is pure and invigorating; and is well adapted for bracing the system of such invalids as can bear an elevated site. Owing to the eastern aspect of the town, the strong winds of the winter and spring are severely felt.

There are two springs in the neighbourhood, which may be frequented for amusement. But the waters of St. Anne's Well and of the Holy Well are only pure and soft; the very small quantities of sulphate of soda and carbonate of lime which they contain being useless from a medical point of view.

438. *Lancashire and Yorkshire.*

SOUTHPORT.—Situated on the west coast of Lancashire, between the mouths of the Mersey and the Ribble, this watering-place is eighteen miles from Liverpool and thirty-two from Manchester. The climate is bracing and sedative, the air dry but not irritating, fogs are very rare, and the atmosphere is light and pure. The temperature is variable, changes occur rapidly, while the mean for the year is 54°. The sea-bathing is good at low water, the shore sandy, the water clear and pure, and the bay so well sheltered that it is seldom too rough.

As a summer and autumnal residence Southport is useful in laryngeal, bronchial and pulmonary affections; in tuberculosis; in dyspepsia with constipation and flatulence; in chronic rheumatism; in some forms of paralysis; and in nervous depression after long illness.

GRANGE IN CARTMEL, at the head of Morecambe Bay, sheltered by the hills of the lake district of Cumberland and Westmoreland, preserves an equable climate, more mild than would be expected so far north. It may be resorted to early in spring and in autumn as well as throughout the summer, and makes a good northern winter residence for invalids. The scenery in the immediate neighbourhood is extremely pretty, and Windermere is within reach by a drive.

SCARBOROUGH.—A fine town with good accommodation. Built on the slopes of a beautiful bay on the Yorkshire coast, in the form of an amphitheatre, this town is resorted to in the summer for its sea-bathing. The beach at low water is very extensive, quite level and firm, with very little shingle. The season extends from June to October. It is suitable for nervous and hypochondriacal patients, for such as have been overworked and need change of scene and amusement, and for convalescents requiring a bracing air.

Close together at the Spa, there are two mineral wells,—the *North* or *chalybeate*, and the *South* or *saline* spring. There is not much difference, however, between their waters; those of both being mildly aperient, alterative, and slightly tonic. Their temperature is about 49°; and they yield nitrogen gas, carbonate of iron, chloride of sodium, sulphate of magnesia (most abundant in the South spring), sulphate of lime, and bicarbonate of lime. These waters may perhaps be useful in habitual constipation, dyspepsia, torpidity of the liver, and scrofulous complaints.

FILEY, seven or eight miles to the south of Scarborough, has many of the advantages of the latter, with the additional one for the invalid of quiet and retirement—not to say dulness. To the north is the ridge of rocks known as "Filey Brig;" while to the south are magnificent lofty cliffs, with Flamborough Head. The sands extend for some miles. At the top of the cliff, on the north side of the town, there is a saline chalybeate spring.

WHITBY.—The air of this seaport town is bracing and pure, the sands are extensive and afford good bathing, while there is a chalybeate spring which is thought well of for its mild tonic properties. The country round Whitby offers beautiful rides and walks. As at Filey, the season extends from the beginning of June until the end of September.

REDCAR.—This is still farther north than Whitby, and enjoys locally the reputation of being the most bracing place on the Yorkshire coast. The surrounding country is beautiful.

SALTBURN-BY-THE-SEA, in addition to these local advantages, has a very perfect bathing establishment, with brine and other medical baths.

439. *Wales.*

LLANDUDNO.—Situated in Carnarvonshire, in the most attractive part of North Wales, this watering-place has risen rapidly into favour during the last few years. It is often called the Welsh Brighton. The town lies between two bays—Conway and Llandudno. It is sheltered from the N.W. and E. by the Great and Little Orme's Head, huge masses of limestone rock which rise precipitously from the sea for many hundred feet. In summer the invalid will find a residence on the flat facing Llandudno Bay most suitable. The beach is of sand; the bathing is good. For winter, the houses under the cliffs are to be chosen, owing to their sheltered position. The winter climate is comparatively mild.

The geologist will find beautiful and delicate fossils on the Orme's Head (Encrinites of many species, Brachiopodous and Lamellibranchiate shells, as well as several species of Gasteropoda); while the botanist will be delighted with the many uncommon plants to be seen in the neighbourhood. Only four miles distant is Conway, with its most picturesque castle.

PENMAENMAWR—situated at the foot of the mountain of the same name on the north coast near the entrance of the Menai Straits—is more quiet than Llandudno, and is preferable to it on many accounts in summer. The bathing here is good, and there are numerous walks and drives in the neighbourhood.

BARMOUTH, on the west coast, has a mild and sedative climate. The bathing is not good, on account of the flatness of the sands, but the neighbourhood affords some of the most charming walks and drives to be met with even in Wales.

TENBY.—This is the most fashionable bathing-place in South Wales. Placed on the Pembrokeshire shore of Carmarthen Bay, the scenery of the neighbouring country is attractive and beautiful. The sands are smooth and good. The season lasts from June until the end of October. Invalids, however, can often stay with advantage during the winter; the atmosphere being then usually mild and spring-like, while accommodation can be obtained at moderate prices. There are not many days during the winter months when the invalid will be unable to take exercise in the open air.

The number and beauty of the Actiniæ and other zoophytes to be found at Tenby have been made known to all lovers of natural history by Mr. Gosse. There are few places which can compare with it for the seaside naturalist. Moreover, the botanist, geologist, and antiquarian will all find occupation in their favourite studies.

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440. *Ireland.*

KINGSTOWN.—This is one of the best frequented sea-bathing places in Ireland. Situated about seven miles south-east of Dublin, on the southern shore of the bay, the harbour is said to be one of the most splendid artificial ports in the United Kingdom. There are good walks in the surrounding country.

The sharp and bracing air of Kingstown proves injurious, during the latter part of the winter and the early spring months, to patients with disease of the lungs.

HOLYWOOD.—A small watering-place much used by the residents of Belfast, from which city it is about five miles distant. The beach is sandy, and good for bathing. There are chalybeate springs in the vicinity.

QUEENSTOWN (Cove).—A town which consists of a series of terraces, built on the southern acclivity of Cove Island, in Cork Harbour. It is well sheltered from northerly winds; is exposed to the full influence of the sun; and the winter climate is admirable, being mild and equable. The mean temperature for the year is 51.9°; that for the winter being 44.1, spring 50.1, summer 61.3, and autumn 52.0. The annual rainfall is 33.22 inches; the average number of days on which there is wet being 131. The invalid should settle here about the end of October; and he will scarcely have a day during the ensuing four or five months when he will be unable to take exercise in the open air. Owing to the way in which the houses are built, at a variety of elevations, the exact locality chosen must depend upon the patient's malady and strength.

All diseases needing a sedative and slightly humid atmosphere may derive benefit at Queenstown. Laryngeal, bronchial, and pulmonary complaints are especially relieved by a winter residence here; and so also are dyspeptic, strumous, rheumatic, and cutaneous affections. It is admirably suited for delicate children; and for convalescents from whooping-cough, eruptive fevers, &c. Functional disorders of the uterine system are often cured by it. In the summer there is excellent sea bathing.—PASSAGE and MONKSTOWN are very healthy villages, situated on the river, about half-way between Queenstown and the city of Cork.

441. *Scotland.*

The climate of Scotland is remarkably equable throughout the year; the summer heat and winter cold being mitigated by the ocean winds. The mean temperature for the year is about 47°; that for the northern counties being higher than for the eastern. The prevailing winds are from a westerly quarter; blowing for more than two-thirds of the year from between the south-west and north-west points. In spring and early summer cold east winds prevail. The atmosphere is moist, nearly 100 inches of rain falling annually in some of the mountainous parts; though along the southern shores of the Firth of Forth the amount is under 30, at Glasgow about 29, and at Musselburgh not more than 24 inches.

The air of EDINBURGH, though neither genial nor mild, is yet salubrious; and is said to be favourable to longevity, as well as to the development of the mental and physical powers. The city extends northwards to the shores of the Firth of Forth; Granton and the old fishing village of Newhaven being only separated from the town by a pleasant walk. The elevated situation of the city renders it exposed to violent winds; but the effect of these is favourable. As a place of education for youths needing a bracing climate Edinburgh has great advantages.

The old city of ST. ANDREWS, situated on a rocky promontory some fifty feet above the level of the sea, has a wholesome genial climate. It should be avoided in the spring months, as it is then visited by a disagreeable chilly mist from the north-east; but from July until the end of October the air is pleasant and salubrious. Sufferers from rheumatism, or invalids with weak lungs, had better not remain long in this city. The rate of mortality among the residents is somewhat high.

On the western coast there are several localities which seem to possess good winter climates for invalids. The island of BUTE, in the Firth of Clyde, has many advantages; the air being mild and equable, though rather humid. Its mean temperature for the year is 48.25°; that for winter being 39.62, spring 46.66, summer 58.06, and autumn 48.50. The annual rainfall is 38.62 inches; there being more or less wet on about 150 days. Snow rarely falls in the winter, and there is a freedom from fogs. The island is protected from the east winds of spring; and there are great opportunities for outdoor exercise. The climate being rather sedative, invalids needing a strong bracing air must seek it elsewhere.

Hypochondriacs, sufferers from habitual constipation or sluggish action of the liver, and young men with a predisposition to phthisis are often much benefited by a summer or autumnal walk through the HIGHLANDS; and certainly for the over-worked literary or professional labourer nothing can be more invigorating than such a tour.

442. *The Channel Islands.*

All the Channel Islands are remarkable for their beautiful and varied scenery, for the temptations they offer to the zoologist and botanist, the mildness and humidity of their climates, the absence of great heat in summer and great cold in winter, and for the equability and duration of autumn. The east, north-east, and north winds which prevail in the spring are disagreeable and injurious.

The climate of the Channel Islands is generally favourable in chronic disease, in asthma, in bronchial and intestinal disorders, and in affections of the urinary organs; while it is also suitable for convalescents from acute inflammations of the organs of respiration. The old and the young also are benefited by it: to them the effect is tonic and regenerating. Invalids from India and Australia may winter in these islands with advantage. They are unfavourable in chronic rheumatism, hepatic disorders, structural diseases of the uterus or ovaries, nervous dyspepsia, hypochondriasis, and in cases where there is a tendency to dropsy or hæmorrhage. Pulmonary consumption appears to be as common and fatal among the inhabitants as in most other localities.—The most favourable time for a stay in either of the group is from August until the beginning of February. In some instances, a change for a time, from one island to another, is productive of good.

These islands may be reached by steamers from Southampton or Weymouth in less than twelve hours. Invalids, especially ladies and children, should choose their day of sailing so as to avoid a rough passage across the English Channel; and so that they may not have to land in small boats. The packets can generally enter the harbour of St. Peter's Port in Guernsey, and that of St. Heliers in Jersey, except near low water on a receding tide.

GUERNSEY, the most westerly and exposed of the islands, has an average annual temperature of 51.50°; that for winter being 44.2, spring 47.7, summer 59.9, and autumn 53.8. Sea fogs are rare, except in the early part of the day in spring and autumn. The air is relaxing. The mean annual rainfall is rather more than 35 inches, falling in heavy showers on about 164 days, and more often in night than day. Percolation takes place rapidly through the gravelly soil; evaporation is also favoured by the brisk wind and sunshine. The walks are too hilly for most invalids. Guernsey is thirty miles from Jersey.

JERSEY is the largest of the group of islands, and the most important; being about twelve miles long, with an average breadth of five miles. The surface of hill and dale is well wooded; the coast is rocky and precipitous; and it is exposed to the wind from every quarter. The mean yearly temperature is the same as for Guernsey; during three quarters of the year the average being higher, while it is lower in the winter. Nevertheless, the latter is mild, frost and snow being very rare. The daily range of the thermometer is small, though it is greater than in Guernsey. St. Heliers contains nearly half the population of the island; but it is more foggy and humid, and therefore less suited for invalids than St. Aubins, which lies three miles to the south-west of it. The sands are good for summer bathing.

The air of ALDERNEY and SARK is usually said to be drier and more bracing than that of Guernsey; while that of the latter is less relaxing than that of Jersey.

443. *South of France.*

PAU.—This, the chief town of the Department of the Basses-Pyrénées, is about 125 miles south of Bordeaux and 56 miles east of Bayonne. It may be reached from London in 48 hours; and the season lasts from the beginning of November until the end of May. The mean annual temperature is about 56°. The average for September, October, and November is 56.4; that for December, January, and February 42.8; while for March, April, and May it is 54.0. The annual rainfall is about 43 inches, the rainy days numbering 119. Owing to the gravelly soil any quantity of moisture is readily absorbed. The climate has been described thus:—"Calmness, moderate cold, bright sunshine of considerable power, a dry state of atmosphere and of the soil, the rains of short duration. Against these must be placed,—changeableness, the fine weather being as short-lived as the bad, rapid variations of temperature, within moderate limits. In autumn and spring there are heavy rains." The air in December, January, and February is dry and, out of the sun, cold; but even in these months the rays of the latter are so powerful that the pedestrian ought to protect his head with an umbrella. There are very few days on which the invalid will be unable to take exercise between 12 and 3 o'clock. The evenings, however, are chilly, and the nights cold.

Pau is not influenced by the west-north-west wind, the *Circius* of the ancients; nor by the north wind, or *Bise*, which produces a biting cold; nor by the north-west wind, or *Mistral*: in fact, the climate is calm and soothing, high winds being rare. According to some physicians Pau is useful in cases with a scrofulous taint, in preventing generation of tubercle, and in checking softening of tubercle when formed.

The climate is sedative (not to say depressing), modifying nervous and vascular irritation; and therefore beneficial in irritations of the mucous membranes of the air-passages or alimentary canal.—It is unsuitable where the powers of life are declining; in chronic catarrh or bronchitis of old people, with loss of tone and excessive expectoration; in chronic rheumatism or gout, with debility of digestive organs; in tendency to apoplexy from passive congestion; in chlorosis; and in disorders attended with congestion of the venous system and diminished nervous energy. In all these cases the climate of Mentone (from the commencement of November until the end of February) is preferable. In short, Pau is to be chosen when there is "functional derangement of a tonic irritable type, which paves the way to organic mischief." Acting on persons in health the air lowers the tone; makes the sanguine, phlegmatic; and the choleric, melancholic.

BIARRITZ.—A fashionable sea-bathing village on the shores of the Bay of Biscay, some 5 miles south-west of Bayonne, and 65 miles from Pau. The roads between the two places are excellent, and communication by diligence or omnibus very easy. It can be reached from London in about 48 hours. The air is warm; the temperature of the sea high; and there is always a soft invigorating sea breeze. When benefit has been derived from a winter at Pau, it is often advisable for the patient to go to Biarritz for the summer; returning to Pau for a second winter. The sandy gently-shelving beach is well adapted for bathing; which is no slight luxury in water at a temperature of 75° Fahr.

According to DR. HENRY BENNET, the climate not only renders Biarritz a favourite summer and autumn watering-place, but puts it among the eligible winter stations of the south. It is cheaper also in winter than in summer, being then almost deserted by fashionable visitors. In cases of severe disease it is not equal to Pau, Ajaccio, or Mentone, the winter breezes from the Bay of Biscay being often very violent.

MONTPELLIER.—The reputation which this city formerly enjoyed as a winter residence for consumptive patients has entirely gone. The climate is dry, irritating, and changeable; and though the heat of the sun is great, yet the winter winds are cold and unbearable. Mean temperature of the year 59.5°; winter 44.2, and summer 76. Phthisis is very prevalent amongst the native population. Invalids with relaxed mucous membranes and copious secretions sometimes find advantage from spending the autumn here.

Marseilles.—This city, second only in importance to Paris, offers no residence for the invalid. Pulmonary consumption annually destroys a large number of young women and men. Catarrhs, pleurisy, and pneumonia are common; and so are cutaneous affections, diseases of the generative organs, and cancer.

Mean annual temperature 58.32°; winter 45.22, spring 55.91, summer 72.93, and autumn 59.21. Although these figures are high, yet the winter is sharp and cold, the winds being high and prevalent—especially the mistral (north-west). In spring, the variations in temperature are sudden and dangerous, and there is much rain. During summer the heat and dust and insects are intolerable.

Hyères.—This little town is agreeably situated, about two miles from the shores of the Mediterranean, and an hour and a half's drive from Toulon. The climate is clear, pure, dry, and tolerably mild. The greater portion of the town is sheltered from north and east winds; while it is open to the south, benefiting by the influence of the sun and sea-breezes. But it is exposed to the mistral, as there are no protecting hills on the north-west; and this blows frequently during the first three months of the year. It has been thought one of the best localities in the South of France for the winter abode of invalids with pulmonary disease, as there is much fine weather, without great variations in temperature. The mornings and evenings, however, are cold. In summer the heat and dust prove very annoying. The season is from the beginning of October to the end of April.

Costebelle, a suburb of Hyères, on the slopes of the hills, which are covered with pine woods and completely sheltered, is three miles from the sea. The views are very beautiful. It is the nearest winter resort to England in the Riviera, and the most southern. It is free from the excitement of some of the larger or more gay places, and should be recommended in preference to Hyères itself.

Cannes is an agreeable seaport, on the shore of a small bay, well protected from cold winds. It has a climate more moist and sedative than Nice, and less so than Pau. The lower parts of the town should be avoided, as the drainage is bad. The over-worked man of business, seeking fresh air, genial sunshine, and a locality possessing a combination of fine sea and mountainous scenery, may advantageously winter here. Cases of nervous dyspepsia are particularly benefited, and so are some forms of phthisis.

In the summer Cannes is resorted to for sea-bathing, the extensive sands being well adapted for this purpose. Sand baths are sometimes used for the relief of rheumatic and paralytic affections of the limbs; the patients being immersed up to the chest in sand warmed by the sun. Like mud baths, they may serve to amuse the invalid, while he is breathing pure air and living by rule.

Grasse is a small town 9 miles inland from Cannes, delightfully sheltered, and surrounded by beautiful scenery.

Nice.—The reputation long enjoyed by Nice for salubrity has been found to have been greatly overrated. Protected towards the interior by the Maritime Alps and the Estrelles, cooled by the breezes of the Mediterranean, and with a mild dry climate, it would seem to be a favourable locality for phthisical patients. But notwithstanding these advantages the valley is exposed, during winter and spring, to cold irritating winds from the east and north-east: and the Nisands then suffer much from catarrh, ophthalmia, skin eruptions, pneumonia, and irritable gastric affections.—The mean temperature for the year is 59.01°; for winter 46.33, spring 55.92, summer 71.83, and autumn 61.52. The variations between the warmth of night and day, of sun and shade, are remarkable. The annual rainfall is about 26 inches; most falling in October and November, leaving the other winter and spring months comparatively dry.

M. Carrière has compared the valley in which Nice is situated to an open fan, the arch of which is formed by the mountains, and the point by the shore, where the Var discharges itself into the sea. But the mountainous semicircle is indented in parts, and down these interruptions the winds blow from certain points, and injuriously affect consumptives.—The mistral is "the scourge of the Mediterranean shores of France and Sardinia." It may continue one, three, seven, or more days at a time; in autumn and winter it blows frequently, and hence it is absurd for invalids requiring a mild temperature and calm atmosphere to winter at Nice. The south-east wind, or sirocco, so injurious on the continent of Italy, becomes changed into a mild beneficial breeze during its transit across the Mediterranean to Nice; and hence it modifies winter cold, and summer heat and dryness. *La Croix de Marbre*, the suburb of Nice inhabited by the English, is most unfavourable for pulmonary invalids; being exposed to the libeccio (a relaxing south-east wind), and to the blighting influence of the mistral. The invalid, if he will go to Nice, should live at the foot of the heights, in one of the shady valleys open to the south. The brilliant sun entices him out of doors, and then the blighting piercing wind attacks him, and clings around him: no furs, no heavy cloak, no flannel will keep out the cold. He ought not to venture into the open air too early in the day, nor should he remain there later than one hour before sunset. The bills of mortality of the Nisands give one-seventh of the deaths as from phthisis. Nice is not the place to which a foreigner labouring under tubercular phthisis should resort. It is also unfavourable for nervous and susceptible invalids. The air may sometimes be beneficial in chronic rheumatism and gout; in all uterine derangements connected with a torpid state of the system; for delicate children of a strumous habit; and for invalids returning from tropical climes. The stay should extend from the middle of October until the beginning or middle of January; for although the season lasts until the end of April, yet the invalid will seldom derive benefit from prolonging his residence beyond January.

Villa Franca.—This little town, a short distance from Nice, has a climate somewhat warmer and drier, and is less exposed to the north and north-west winds. The vegetation is luxuriant and early.

Monaco, the most beautiful, expensive, and fashionable place in the Riviera, is given up to the gaming table, and is therefore scarcely suitable for invalids. At La Turbie-sur-Mer, close to Monaco, there is an excellent hotel, with the climatic advantages of this greatly favoured spot.

Mentone.—Formerly a small Italian town, but annexed to France in 1860, Mentone offers one of the most sheltered stations in the south of

Europe. It is situated on the northern shore of the Mediterranean, at the foot of the Maritime Alps, and twelve or thirteen miles to the east of Nice on the road to Genoa. The bay, in the centre of which the town is placed, is completely protected from the north, north-west or mistral, and north-east winds by the mountains; while, owing to the absence of fogs, the paucity of rain, and the great power of the sun, the air is very pleasant during the winter months. The mean temperature is a little higher than that of Nice. The night temperature is also mild, and not subject to great variations; so that many invalids are able to keep the air of their bedrooms pure by sleeping with the windows slightly open.

From the beginning of November until the end of April the climate is genial and bracing. The invalid must not remain during the summer. A residence here is very useful in phthisis, when the disease has not passed beyond the first stage; and even when it has reached the second or third, provided the tubercular deposit be limited to a part of one lung. It is also beneficial in chronic cases of consumption; chronic bronchitis; and chronic gout and rheumatism. Strumous children improve remarkably. Some who visit Mentone prefer the eastern bay, some the western; but whichever be chosen, care must be taken to select rooms having a south aspect, and with the bedroom not on the ground floor. According to DR. HENRY BENNET, pulmonary consumption is a rare malady among the native population; the deaths from it being only 1 in 55, instead of 1 in 5 as in London and Paris.

For the sake of those who are not overburdened with wealth, it may be as well to remember that Nice and Mentone are both extravagant places, while *San Remo* is much cheaper, and the air is just as good during the winter. Moreover, twelve miles east of Mentone and seven miles west of San Remo lies *Bordighera*. It faces the south, in a fine bay protected from the due east and west winds by ranges of hills. The air is mild and exhilarating. The walks are good, being well protected from dust and wind. The palm, olive, orange, and lemon all flourish on the hill, nearest the town. And lastly, the pleasure of staying at San Remo, or at Bordighera, will be enhanced by reading a very charming tale—"Doctor Antonio."

444. *Corsica.*

This island, one of the most important in the Mediterranean, has shores mostly low, while the centre is mountainous. Corsica is healthier than the Riviera, and its air is more genial. The olive is indigenous. The scenery is grand. Within a few hours' drive of AJACCIO are several villages in the hills (*Orezza* with chalybeate springs, *Guagno* with sulphur springs, &c.), where invalids might reside during the summer after having wintered in Ajaccio. This clean and cheerful little town, on the west coast, is said to be especially charming during the months of January and February. The gulf of Ajaccio offers an excellent harbour for yachts; while it is protected from all winds but the south-west, by its semicircle of grand mountains in the distance. The sandy shore, with beautiful rocks, is greatly to be preferred to the shingly beach at Nice. The climate is as warm as that of Nice, and it is unexceptionally healthy. The air of Ajaccio is more soothing (less stimulating) than that of Mentone, without being relaxing like that of Madeira. Napoleon Bonaparte was born at Ajaccio on the 15th of August 1769.

Ajaccio is the only locality in Corsica that appears thoroughly eligible as a winter residence. The climate of BASTIA is warm and agreeable: but the town has a small tideless port, and is exposed both to south-east and north-east winds. The surgeon of the civil hospital at Bastia states that nearly all surgical wounds heal at once by first intention, while purulent absorption is almost unknown. Intermittent fever prevails in parts of Corsica towards the end of summer or beginning of autumn. It may be reached from Marseilles by steamer in fourteen or sixteen hours, or from Nice in eight or nine hours, and is thus within about forty-eight hours of London.

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445. *Spain and Portugal.*

ALICANTE.—Lying along the shores of a bright open bay in the Mediterranean, is this healthy town. It is sheltered on the north and north-west sides by a limestone rock some 700 feet high, is free from malaria, and has a mild dry air with comparative immunity from high winds. The mean annual temperature is 63.7°, that for winter being 52.1. The rainfall is very moderate. In summer the calm open sea and sandy beach afford good bathing. In winter, whatever may be the temperature of the morning air, the middle and after-part of the day will generally be mild and calm.

As a winter residence it may be recommended to such as need a dry and somewhat stimulating climate. It has been found useful in chronic bronchitis, with excessive secretion; as well as in atonic dyspepsia.

BARCELONA.—This, the chief city of Catalonia and the second in importance of Spain, has a mild winter air. It is open to the sea on the south and south-west, and is partially protected from westerly and northerly winds by the hills at the back. The mean annual temperature is 63.14°, that of winter being 50.18; while there is rain on some 69 days in the year. Invalids requiring a rather stimulating and dry climate may reside here, but it cannot be strongly recommended. April and May are the most uncertain months.

CADIZ.—The semi-insular position of this commercial town, on the shores of the Atlantic, would seem to point it out as a suitable winter residence for those requiring sea air. The climate is soft, humid, and relaxing; the winters are mild and the summer temperate; the weather is showery, especially in winter and autumn, but the soil being porous, it soon dries; and there are few days during winter on which exercise cannot be taken in the open air. The mean annual temperature is 62.75°; that for winter being 52.80, though very often at this season the thermometer, in the shade, will stand at above 60. Rain falls on about 100 days in the year; but it generally comes in showers, with intervals of sunshine.

This town may be recommended for some irritable affections of the chest, and in certain cases of heart disease. Women with any tendency to ovarian or uterine disorders should avoid Cadiz. The stranger will find it best to reside in the central portion of the town,—as on the sunny side of the square of General Mina or San Antonio, or in one of the lesser plazas. The wall (Muralla del Mar) which nearly surrounds the town has on its summit an agreeable walk.

MADRID.—The capital of Spain, situated nearly in the centre of the Peninsula, is perhaps an attractive city for the tourist; but the irritating and stimulating character of the climate renders it an unfavourable one for the English invalid. The mean annual temperature is 57°; but the range is so great that DR. FRANCIS has observed a thermometer pointing to below freezing a little after sunrise, stand at 106° at 3 o'clock P.M.—The winters are raw and long, with hard frosts and piercing cold winds: in summer the heat is irritating and oppressive, so that even the Spaniards cannot stand it.—"The subtle air," says FORD in his Handbook, "which will not extinguish a candle, puts out a man's life. . . . . No wonder, according to Salas, that even the healthy of those born there live on physic."

MALAGA.—DR. FRANCIS speaks very highly of *Malaga*, which, indeed, seems to be the El Dorado of cities; for he asserts that there is no place in Spain, nor in the whole of Europe, as far as our present information goes, that possesses a climate at once so mild and equable, with so little variation from day to day. This seaport city is situated on the shores of a bay of the Mediterranean, 65 miles east-north-east from Gibraltar. The mean annual temperature is 66.11°. that of winter being 54.41; the heat of January corresponding with that of May in London. The air is neither too moist nor too dry; and a lofty mountain range forms a protecting background to the winter winds. The annual rainfall is said to be only 16½ inches.

The longevity of the people is remarkable; persons aged from 80 to 90 being seen going about the streets in full possession of all their faculties. Though the ratio of mortality is 1 in 37, yet it must be remembered that this is larger than it would otherwise be, not only from the excessive mortality in early life (42.3 per cent. during the first five years) owing to the mothers not nursing their infants, but likewise from the presence in the town of a large garrison and a crowded convict establishment. The principal drawback seems to be the terral, a cold harsh wind from the north-west, which occasionally blows during the winter with great force. It causes restlessness and oppression at the chest where there is any pulmonary affection. The air is also unfavourable in cases of disease of the nervous centres.

The invalid who requires a warm, dry, and gently tonic climate, with constant sunshine, may well visit Malaga for the winter. A residence here is especially useful when phthisis seems to threaten, or even when it is present in an early stage. He should live in the newer part of the town, where the soil is sandy, and through the centre of which is the Alameda, a fine broad promenade bordered by cheerful well-ventilated houses. The Spanish custom of taking a siesta in the middle of the day ought to be adopted. There is regular steam communication with Liverpool, the voyage lasting seven or eight days.

VALENCIA.—This city, built upon the great plain of Valencia, is about three miles from the sea. It may be reached in seven days from England, by way of Marseilles.—The town is very clean, the climate unusually dry, though the water evaporated by the system of irrigation pursued impregnates the air with moisture; there are no cold fogs; the wind is soft and mild during winter, in summer refreshingly cool; and the mean annual temperature is 63.5°, that of winter being 49.7°. The cold is often appreciable in early morning and after sunset during winter, but it is warm by midday. The springtime is the best—from the middle of February till the beginning of May: autumn is to be avoided, owing to the miasmata from the rice plantations.—Consumption is not uncommon among the poor; but then in no part of Spain does the labourer work harder, or subsist on a more meagre diet.

Useful for the over-worked man of business, semi-invalids, and hypochondriacs, individuals with impaired health but no organic disease, gout and rheumatism, calculous affections, albuminuria and nervous dyspepsia. There are several towns within easy reach of Valencia where the invalid may go for a short stay,—such as *Alcira*, *Carcajente*, *Jativa*, *San Felipe*, *&c.*

SEVILLE.—The famous capital of Andalusia, and the city of Figaro, possesses a soft and tonic climate. It may be visited by the hypochondriac, by convalescents from lingering disease, &c.; or the invalid who has wintered in Malaga might advantageously stay here during May. The best part of the year is from November to March. There is considerable rain in October, November, and April. Occasionally during the summer the sultry and irritating levante or east wind prevails, giving rise to fever, ophthalmia, mental irritability, and neuralgic affections.

ARANJUEZ is situated 24 miles south of Madrid, on the left bank of the Tagus. The season is in April and May, during which months the climate is soft and most agreeable. The water of the town contains a little sulphate of soda, and hence it sometimes proves aperient if taken largely.

LISBON.—The capital of Portugal has a dry and bracing climate; though the changes from sunshine to rain, from heat to cold, are sudden and remarkable. Hence it is not to be recommended for pulmonary invalids: while, moreover, phthisis is very prevalent among the inhabitants.

The mean annual temperature is about 62.00°; that for winter being 52.52, spring 59.66, summer 70.94, and autumn 62.48. The annual rainfall is 23 inches, most wet days occurring in winter. The predominating winds are those from north-east to south-east, and to them is due the cold of winter.

DR. FRANCIS says that the best situation for an invalid who wishes to pass the winter in Lisbon is the upper part of the Val de Pereiro, a continuation of the valley in which the new part of the town and the public gardens lie. "Here, upon the southern slope of the hill, are a few villas in the midst of orange gardens, which are well sheltered, and afford choice views over the town and river. Those who prefer a country residence may select the neighbourhood of *Bemfica*, a village on the Cintra road, about a league from Lisbon. This place is in high reputation among the Portuguese physicians for the purity of the air, and it is here they send their convalescents."

CINTRA.—A summer residence of the Court and wealthy inhabitants of Lisbon, from which it is only sixteen miles distant. Frequent breezes, a humid soil, and an abundance of vegetation, render the summer air cool and healthy. The winters are wet and cheerless.

446. *Gibraltar.*

This strongly fortified portion of the British possessions occupies a mountainous promontory near the southern extremity of Spain, at the entrance of the Mediterranean. The town is built on the western aspect of the rock. It is unsuitable as a residence for invalids. For though the average winter temperature is 57.93°, yet the prevalence of the south-east wind—the levante—renders the locality cold, raw, and very unpleasant. Snow and ice are very rare, but there is considerable rain. The annual rainfall is 43 inches.

446*a*. *Switzerland.*

These health resorts are exceedingly numerous.—A few are mentioned elsewhere (p. 489); but it would take too much space to speak of each individually, while it would be quite impossible to do justice to any in the few lines at our disposal.

Under *Mineral Waters* will be found mentioned those best known for their baths or waters. The Swiss mountains are resorted to generally for their air, and the beauty and healthfulness of their surroundings. Except such places as Davos, St. Moritz, and Les Avants, the higher stations are closed about Sept. 15th.

Those who enjoy warmth, had better remain below 2000′, and especially around the lakes, where there is generally sufficient movement of air to be pleasant.—These places are cold in winter; but many go for educational purposes to Lausanne. Vevey and Territet have other attractions, and in spite of cold, there are many visitors, even in winter.

Les Avants is almost an ideal mountain-home for children. A large number of visitors in summer, who are active, and fond of climbing, select places above 5000′, such as Mürren, Saas Fee, Bellalp, Eggischorn, or Riffelalp.

447. *Italy.*

LAGO MAGGIORE is the largest of the lakes of Northern Italy. Along its shores are small towns resorted to by English invalids in summer. *Baveno*, *Stresa*, *Pallanza*, *Intra*, and *Locarno* are the most frequented. The climate, though clear and pure, is often marred by the violent thunderstorms which prevail in summer; there are heavy dews at night, while the neighbouring glaciers make it cold when the wind blows from that quarter.

LAKE OF COMO is situated to the north-east of Milan, from which it is not far distant.—The air is genial and mild, the temperature equable, and the heat not oppressive, owing to the alternate play of the tivano or north wind during the night, and the breva or south wind in the day. For ordinary invalids in summer the best situations on the lake are *Bellagio*, *Cadenabbia* and *Menaggio*, all very beautiful spots; while, according to DR. BURGESS, *Pliniana*, the most noted spot along these classic shores, the supposed residence of Pliny, will not yield precedence to either in climate or situation. The cold in the winter is great, especially at the northern extremity of the lake.—No part of Italy perhaps is so suitable for the consumptive in summer as the Lake of Como. That dreaded disease called pellagra, a kind of leprosy, is not uncommonly seen here. From one-third to a fourth of the lunatics in the Lombardy Asylum are suffering from it, for it induces insanity; while many cases of it, in early stages, are to be found in the hospitals.

MONTE GENEROSO, near here, is 5561′ high, with excellent hotel accommodation at the summit for those who are fond of high places. The views are magnificent.

ANDORNO may be reached from Varallo, and while the former is a well-frequented health resort in Northern Italy, the valley from Varallo to Fobello is notable for the native costumes, which are still to be seen there.

MILAN.—This city, the capital of the Lombardo-Venetian kingdom until 1859, when it was made over to Sardinia, is situated in a fertile plain between the Olona and Saveso Rivers, at an elevation of 394 feet above the Adriatic. It is indifferently sheltered from the various winds, so that the climate is cold; snow and rain are frequent during the winter; while the sudden transitions from humidity to a dry harsh air render it an unfavourable locality for any but the strong. It is frequented by consumptives going to, or returning from, the south of Italy; but the shorter their stay, the better.

BRESCIA, PAVIA, VERONA, and MANTUA, the principal towns of Lombardy, are all particularly unsuitable for invalids. Agues, fevers, and inflammations are very common. The cold in winter is intense; the atmosphere is saturated with moisture; there are dense clouds and fogs; there are large quantities of rain, in the form of a fine continuous drizzle; and cold winds are very prevalent, especially the north-east.

VENICE.—This city, the Queen of the Adriatic of the poets, is built on piles, in the midst of a lagoon or large marsh, two miles from the mainland of the continent. It would seem to be slowly crumbling to decay. The climate is mild and equable; the air being impregnated with emanations of bromine and iodine. Consumption is prevalent among the inhabitants. Invalids are not attracted to Venice by the climate, however, but by its historical associations, and many sickly persons are to be found on the favourite promenade—the Piazza of St. Mark. The mean temperature of winter is about 39° F., of spring 54, summer 73, and autumn 55. Drizzling rain sometimes falls for days together. The result of seven years' observation gave a mean of 5½ days of snow in winter.—In Venice the *dolce far niente* practice is fully carried out; the climate being favourable to indolence and voluptuous ease. Contrary to what might be expected, ague is unknown. The tranquillity which prevails over the city is not unfavourable. As the climate is sedative and lowering, it is not fit for those who are depressed by disease; and, except in the early stage, it is injurious to phthisical patients. It is suitable for such as have a tendency to inflammation, hæmoptysis, &c. Invalids may remain here from the close of autumn to the end of spring; but it is most agreeable in the latter season.

GENOA.—This town, at the head of the Gulf of Genoa, is one of the last places for a consumptive to pass any time at. The vicissitudes of temperature are rapid and extensive; there are sudden gusts of wind;

while the biting coldness of the tramontana or north wind, alternating with the warmth and humidity of the sirocco or south-east, the two prevailing winds of Genoa, proves very trying. The best time for a visit to Genoa (not by a consumptive) is about the autumn or beginning of summer. Pneumonia, hæmoptysis, consumption, and catarrh are amongst the most frequent diseases of the inhabitants.

FLORENCE.—Situated on the Arno, a few hours' ride from Pisa, this city may be an agreeable residence for the very strong. But certainly in no part of England could a more unfavourable climate be found for consumptives. It is built in a deep ravine, almost surrounded by the Apennines, and intersected by a squalid river. It is one of the stations on the western zone of Italy where it rains the most. Extreme cold in winter, great heat in summer, chilling northerly winds, occasional fogs, violent atmospheric and thermal variations,—these are its chief peculiarities from a sanitary point of view. The nervous excitability of Florentines is explained by the topography of the city. As the birthplace of Dante, Leonardo da Vinci, and Machiavelli, &c., as the scene of Savonarola's preaching and martyrdom, as well as for its churches and palaces and magnificent works of art, Florence offers many attractions to the tourist.

PISA.—The dismal aspect of this neglected city surpasses that of any other in Italy. The dreary solitude of the streets causes gloom and melancholy; while everything seems stricken with decay or death. It is often recommended for consumptive invalids; but the climate is mainly indebted to tradition—being mild, humid, and relaxing. The sky is dull and often murky. Perhaps the high walls around Pisa assist in protecting portions of it from the cold winds, especially the Lung' Arno, or that quarter where the invalids reside. The mean temperature of winter is about 45°, spring 59, summer 74, and autumn 63. The winter is colder than at Rome. The air is moist from the great prevalence of southerly and Mediterranean winds. The climate is very depressing—causing general lassitude while it enervates the faculties. Many foreign invalids die within a few weeks of their arrival. Hæmoptysis frequently sets in where there is any tendency to phthisis.

ROME.—Situated on marshy ground at the foot of a range of low hills, about fourteen miles from the sea, and divided by the Tiber into two unequal portions, Rome has not so much to recommend it to those really in search of health as many other places. The climate is mild, soft, and sedative; but malarious effluvia, in a greater or less degree, are never absent. The best time in the year is October and the first ten days of November. The mean annual temperature is 60.49°; that of winter being 46.75, spring 58.25, summer 74.24, and autumn 62.75. Owing to its exposure to cold winds, the variations in temperature are great and sudden. Northerly winds are common in the morning and evening, though in the middle of the day the wind blows from the south. The tramontana is cold and searching; but the prevalent wind is the sirocco from the south-east, which is hot, sometimes dry, and sometimes so moist as to render the streets slippery and damp. Under its influence the tissues relax, appetite fails, bowels become torpid, spirits flag, and the weakly get oppressed with lassitude and headache. If an invalid will go to Rome in the winter, let him spend as much time as he can in St. Peter's. No other public building can compare with this church as regards possessing a dry equable temperature all the year round. The mild genial air in its interior is so prized that the sickly meet and promenade in St. Peter's when the weather will not permit of exercise in the open air.

Dr. Burgess entertains a very unfavourable opinion of the sanitary value of this city. And he points out that the popular feeling in favour of a mild and relaxing climate for consumption is altogether wrong, being based upon erroneous data, if not upon mere tradition. A cold climate, such as that of Davos, Norway, or Canada, and still air, are evidently more rational indications, for diseases involving impaired digestion, depraved nutrition, and degeneration of the blood. Nothing is more calculated to derange the digestive organs than the sedative influence of a malarious atmosphere. The mild climate allays bronchial irritation, at the expense of the general health and of disordered nutrition.

The most fitting localities in the city for the invalid with any bronchial irritation, chronic rheumatism, &c., are the north and west sides of the Piazza di Spagna, as having a southern exposure; or he may choose one of the streets running east and west from, and near to, the Piazza,—the Strada de' Condotti, Strada della Croce, Strada Frattina, &c., the north sides of which gain the southern sun, and all of which are on sheltered ground. The south side of the Strada del Corso should be avoided, as the Tiber frequently overflows in winter, generating typhoid fever, &c. The Piazza del Popolo is also subject to damp fogs. In most cases the second and third floors of a house are preferable to the first; since, owing to the narrowness of the streets, they are more exposed to the sun. The higher and more exposed ground of the Monte Pincio, Via Sistina, Piazza Barbarina, &c., is suitable for those with healthy chests, and who can bear a high wind.—The stay may extend from October till the end of May.

Naples.—The climate somewhat resembles that of Nice, but is variable and humid. Situated on the northern shore of the Bay of Naples, on the slopes of a range of hills, near the foot of Vesuvius, this city seems to offer all that is charming to the man in health, and everything that is pernicious to the invalid. The mean annual temperature is 60.26°; winter being 47.65, spring 57.56, summer 74.38, and autumn 61.46. Besides other winds, it is exposed to the sirocco or south-east, which is enervating to both body and mind; as well as to the mistral or north-west, which brings raw piercing cold and damp. Catarrh, pneumonia, phthisis, rheumatism, ophthalmia, uterine disease, and cutaneous affections are common amongst the inhabitants. Eustace says, and apparently with reason,—"If a man be tired of the slow lingering process of consumption, let him repair to Naples; and the dénouement will be much more rapid." Indeed, so fatal is the climate to invalids with pulmonary disease, especially during the winter, that the proverb, —"Vedi Napoli e poi mori," may be interpreted in a more literal sense than that intended.

Baiæ and Pozzuoli.—Situated in the vicinity of Naples, these towns are recommended by M. Carrière as winter residences for invalids already sojourning in the Neapolitan territory. The air is humid and mild, and little disturbed by violent winds. But the undrained swamps in the neighbourhood of Baiæ, and the fatality of phthisis at Pozzuoli, ought to deter any invalid from leaving England for these stations of classic renown, however anxious he may be to escape to them from Naples.

ISCHIA.—The island of Ischia, in the Mediterranean, can be reached by steamer from Naples in about three hours; or the sea passage may be much shortened by driving from Naples to Miliscola, crossing over to the small island of Procida, only two miles and a half distant, and thence to Ischia, which is separated from Procida by a channel two miles in breadth. The circumference of Ischia is rather more than twenty miles. Nearly in the centre of the island is Monte Epomeo (the Mons Epomeus of the ancients), the highest point of which is 2574 feet above the level of the sea. Bishop Berkeley seems to have been delighted with a three or four months' residence at Ischia. Thus he speaks of the island as "an epitome of the whole earth;" containing within a compass of eighteen miles a wonderful variety of hills and valleys, ragged rocks and fruitful plains, barren mountains and beautiful vineyards, cornfields and orchards, natural fountains and rivulets, &c., "all thrown together in a most romantic confusion." The air in the hottest season is refreshed by cool sea breezes. The hedgerows are of myrtle, with the aloe and prickly pear; and there is an abundance of delicious fruit.

The baths of Ischia have been in repute for centuries. Strabo and Pliny were acquainted with the virtues of some of the waters. Their chief characteristics are the large quantities of chloride, sulphate, and carbonate of soda which they contain; combined with magnesia, lime, &c., and a large volume of carbonic acid gas. Their temperature is high—*e.g.*, that of the Acqua del Tamburo is 210° Fahr., and that of Petrelles, on the south side of the island, 205°.

The principal and most picturesque village on the island is *Casamicciola;* which is situated on high ground behind Lacco, is sheltered on the north-west and south sides by Monte Epomeo, and is in the neighbourhood of the chief springs now in use. These springs rise in the Val Ombrasco, a ravine at the base of Monte Epomeo. The most celebrated spring is the *Acqua di Gurgitello*, which is used for bathing and drinking. It contains chloride of sodium, carbonate of soda, sulphuretted hydrogen, and nine cubic inches per cent. of free carbonic acid gas; while the temperature of the water is often as high as 170° Fahr. This spring is useful in cases of chronic gout and rheumatism, sciatica, scrofula, nervous irritability, &c.

Near the Gurgitello is the *Acqua di Caponne*, used for drinking only. The water, like that of Wiesbaden, has the taste of chicken broth; the temperature is 98° Fahr. DR. A. VANS BEST told the Author that the Italians praise this water for its good effects in renal, vesical, and uterine complaints.

Below Casamicciola is the pretty village of *Lacco*, in which are the hot air and sand baths of *Santa Restituta e Regina Isabella*. The most celebrated natural vapour bath in the island is the *Stufa di S. Lorenzo;* the steam from which is discharged from crevices in the lava at a temperature of 135° Fahr.

Independently of its remarkable mineral springs, the climate of Ischia is delightful. The evenings are rather cold during the winter and spring months, but the air is genial throughout the day. The heat of summer is mitigated by the sea breezes, while the vines and orange trees afford a beautiful shade. A stay of some weeks on the island can be recommended in hepatic and splenic disorders, in the early stages of Bright's disease and other forms of renal mischief, as well as in gouty and rheumatic and neuralgic affections. Invalids from India might well be advised to recruit at Casamicciola.

448. *The Ionian Islands.*

This group of island in the Mediterranean, off the west coast of Greece and Epirus, ceded to the Greeks by Great Britain in 1863, consists of *Corfu*, *Cephalonia*, *Zante*, *Santa Maura*, *Ithaca*, and many smaller islands. Their surfaces are mountainous and rugged, but in some of the larger islands there are fertile plains. They vary but little in climate; the winters being stormy and wet, with northerly winds, the springs warm, and the summers dry and hot. Intermittent and remittent fevers, dysentery and diarrhœa, phthisis and pneumonia are prevalent. As a tour for the hypochondriac a visit to these islands may be recommended.

449. *Malta.*

Of an area not much exceeding that of the Isle of Wight, this island forms the chief station of the British fleet in the Mediterranean, and is daily called at by ships of all nations. The atmosphere is clear and bright, the annual rainfall about 15 inches, the air mild and bracing in winter, and the temperature equable, with a yearly average of about 64°. Heavy gales of wind are not very frequent, though the atmosphere is never entirely calm. The gregale or north-east wind is cold in winter, and often does damage in the harbour of Valetta; while the sirocco or south-east prevails especially in August and September, is hot and humid, and produces lassitude with debility.

The REV. JAMES SHERMAN, who suffered from consumption, writing from Malta on the 16th of January 1861, said:—"A blazing sun shoots his rays into my room, and a delicious breeze makes it sufficiently cool. I look out on a sort of Regent Square—people traversing up and down in crowds—a beautiful garden opposite my window, with hundreds of oranges on the tree—priests, beggars, and guides jostling one another in every direction—a side view of the ocean—a deep blue sky, without a cloud—and at night the stars looking so large, near, and brilliant, that I can scarcely believe I am only 4½ days from the frost and snow of England. The climate seems most delicious, and well adapted to invalids."

The weather is most agreeable from the middle of October until the end of January. Asthma connected with chronic bronchitis, atonic dyspepsia, strumous glandular swellings, and deranged health from over-work,—these are the cases which are most likely to be benefited by a stay in the cheerful bustling capital Valetta.

450. *Egypt.*

One of the earliest civilized localities of the world, this country has long been divided into the provinces of *Said* or *Upper Egypt*, *Vostani* or *Middle Egypt*, and *Bahari* or *Lower Egypt*. Upper and Middle Egypt are more healthy than the Delta. There are only two seasons in Egypt,—the temperate from October to March, and the hot from March to October. At *Cairo*, the capital, the climate is healthy, little variable, and remarkably dry; rain falling very rarely. The nights and early mornings during the winter are cold, especially those of the last half of December and the first fortnight of January. The mean temperature of the year is 72.2°; that of winter being 58.5, and of summer 85.1.

Taking the whole of Egypt, the mean temperature in December, January, February, and March may be said to be about the same as that of this country in June, July, and August. Between April and June a hot wind sometimes blows from between the south and south-east. It is known as the "khamseen," because this word is the Arabic for fifty; and these winds are most prevalent during the fifty days preceding Whitsuntide. A khamseen may continue for two or three or more days; the air is rendered hazy from the sand and dust suspended in it; while the thermometer, in a sheltered spot, will often reach 110°.

The invalid should leave England rather early in October, so choosing this time of sailing by one of the Peninsular and Oriental Company's steamers, as to be able to see the best spots on the south coasts of Spain and Portugal, Gibraltar, and Malta. This arrangement will sometimes be preferable to that of beginning the voyage at Marseilles or Brindisi. From Malta to Alexandria occupies only a few days: the traveller ought to arrive at the latter by the middle of November. Leaving this port as soon as "the Sights" are visited, he proceeds to Cairo by railway; if he intends to ascend the Nile, he should reach Thebes by the beginning of December. The climate of Thebes is all that the valetudinarian can desire; and hence he may either remain there, or proceed southerly in the direction of Nubia. But, however far this trip may extend, he should be back in Cairo by the end of March; whence he may arrange his home journey, by way of Greece and Constantinople, so as to be in England by about the latter part of June.

The necessity for travelling by, and living in, boats after leaving Cairo, has of course certain disadvantages, and is somewhat expensive. But with a dry balmy atmosphere, and a sky bright and cloudless, the invalid may find much that is most agreeable and exhilarating in the even progress of a Nile boat—a dahabeëh. The two chief annoyances to the traveller in Egypt are the dust, and "Baksheesh." The former may be mitigated by suitable clothing—mohair dresses for ladies, and flannel shirts with tweed suits for gentlemen; while the latter must be avoided by not exhibiting too much liberality, and by bargaining beforehand with dragomen, guides, coachmen, boatmen, &c. The diet should be simple and unstimulating, but nourishing; light Hungarian or Bordeaux or Rhine wines are preferable to port and sherry and brandy. Bitter beer is often serviceable; but stout and porter should be avoided. Purgatives ought to be taken as seldom as possible. Cod liver oil often disagrees; while all preparations of bark are more than ordinarily apt to produce headache and hepatic derangement. The climate may especially be recommended in the early stages of tuberculosis, except in cases in which there is a dry irritable cough, in chronic bronchitis, in clergyman's sore throat, tertiary syphilis, some forms of asthma, gout and rheumatism, renal diseases, dyspepsia, and affections of the nervous system.

451. *Algiers.*

The city of Algiers, the capital of an extensive country of northern Africa, bordering on the Mediterranean, has been much resorted to by invalids. It can be reached in about 55 hours from London; by way of Paris, Lyons, Marseilles, and thence by steamer in 28 hours. About the end of October is the best time for the invalid's arrival on the coast of Africa; the great heat having then usually ceased, and the first rains having refreshed the lands, so that the country has the appearance of spring.

Speaking of this city, DR. MITCHELL says that with difficulty, if at all, will the European traveller find a spot on earth where natural beauties so combine with those of man's creation to please and interest him. One of the long sides of the oblong of which the "Place du Gouvernement" is formed, is open to the sea; commanding a view of the bay, the harbour, the peaks of the distant Atlas, and the verdure of the Sahel slopes. The "Place" itself is filled with a strange mixture of all races; the Arab, the Moor, the turbaned Jew of Africa, the Maltese fisherman, the Spanish fruitseller, the veiled woman of Moslem, the picturesque Jewess, the pretty Spaniard, &c. &c. The invalid will find objects of interest without seeking them, and will be gratified and amused merely by wandering in the open air.—The mean annual temperature is about 66.50° Fahr. The mean temperature for each season is—winter, 56.91; spring, 67.60; summer, 77.73, and autumn, 63.80. The rainfall is 36 inches; rainy days, 96. Winter fogs and snow are rare. Compared with other points on the Mediterranean, Algiers has a warmer and less varying climate than Marseilles, Nice, Genoa, and Naples; while it more nearly approaches, but is still superior to Malta, Corfu, and Gibraltar.—DR. MITCHELL quotes the opinions of M. ODRULTZ, which are to the following effect:—1st, The climate of Algiers is opposed to the generation as well as to the evolution of tubercle in the lungs: 2nd, This morbid production is observed but very exceptionally among the indigenous population: 3rd, Europeans who do not bring the germ of the disease to Algiers, almost never become phthisical: 4th, Those who do bring not only a predisposition, but actually crude tubercle, in greater or less quantity, in the lung, are often cured; or, in the worst cases, the progress is extremely slow: 5th, When the tubercle has softened, the climate is no longer favourable, but the reverse.

The climate is also beneficial in laryngeal and bronchial affections; in chronic heart disease; in gout and rheumatism; and in renal disorders.—Hot springs of Hammam R'Irha, curative of sciatica, rheumatism, &c.—Nervous complaints, paralysis, epilepsy, and convulsions are aggravated by it. Cerebral congestions, gastric and hepatic disturbances, and a plethoric condition of the uterine organs, appear to be common in Algiers.

Tangier possesses a climate equal to that of Algiers, and is gradually becoming available as a winter residence for invalids.

452. *The Azores—Madeira—The Canary Islands.*

THE AZORES OR WESTERN ISLES.—This group of nine islands, belonging to Portugal, lies in the midst of the Atlantic Ocean. They are of volcanic origin, all possess similar features, and all have mild equable climates. The atmosphere is saturated with moisture. A winter trip to the Azores may be recommended where a soothing relaxing climate is needed. Hence it is beneficial in inflammatory dyspepsia, bronchial irritation with scanty secretion, and in the premonitory stage of consumption. SIR JAMES CLARK thinks that a change from the Azores to Madeira, and from thence to Teneriffe, would in many cases prove more beneficial than a residence during the whole winter in any one of these islands.

MADEIRA.—Of the group of Madeira Isles, the largest and most important is Madeira about 120 miles in circumference. Funchal, its capital, has long enjoyed great reputation as a winter residence for the phthisical. It is uncertain whether this reputation is deserved. Where the disease is advanced and the irritable lungs are soothed by a humid heat, some of the distressing symptoms of phthisis are alleviated by a stay at Funchal; but such relief does not stay the increase and degeneration of tubercle. The invalid who leaves this country about the middle of October can reach Madeira in six days from Southampton, seven from Liverpool, when he will find himself in a tropical climate, with an unclouded sky, a glowing sun, a deep blue sea, a luxuriant and varied foliage, and beautiful hills which were covered with flourishing vineyards. In the autumn of 1852, however, when the vine disease suddenly broke out, there was a sad change; the plants being destroyed by the deadly fungus. The return voyage should be undertaken about the beginning of June.

The climate of Madeira is mild, equable, and moist. There are occasional storms of wind and rain, and fires are often necessary in the mornings and evenings. The mean annual temperature is 64.9°; that for winter being 60.6, spring 62.3, summer 69.5, and autumn 67.3. The annual rainfall is 29.23 inches; the days on which there is wet being about 70. The most injurious wind is the hot, parching leste, from the east-south-east; which is often charged with a fine dust, very irritating to the air passages.

The invalid who cannot bear a dry and irritating climate, but needs a mild and soft and relaxing atmosphere, will obtain it here. Laryngeal, bronchial, and pulmonary diseases are soothed; and benefit may be derived by a few patients threatened with consumption, provided their symptoms are marked by irritability and an excess of vascular action. Hypochondriacal and rheumatic and neuralgic patients ought especially to avoid Maderia. Should the invalid wish to spend a second winter in Madeira before returning home, a voyage may be taken to Teneriffe in June, and the stay prolonged there until the end of October.

THE CANARY ISLANDS.—This group (Fortunatæ Insulæ) consists of seven principal islands, and several islets. The climate differs from that of the foregoing in being warmer, drier, and less relaxing. Orotava, Laguna, Santa Cruz, and Las Palmas (Grand Canary) have lately become important health resorts. The journey takes eight days from London. The hotel accommodation at each of these places is now excellent. English doctors and invalid necessaries are to be had. The temperature is agreeably warm and equable, with a daily range of only 10°, and the scenery and surroundings of the dry and sunny Canaries is charming. They are particularly suitable for early phthisis and other chronic lung affections. At *Santa Cruz*, the capital of *Teneriffe*, the mean annual temperature is 70.15°; that for winter being 64.85, spring 68.87, summer 76.68, and autumn 74.17.—Orotava rather hot till November, but Laguna, which is 1840 feet above sea, is pleasant earlier in the year.

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453. *Cape of Good Hope—Natal.*

THE CAPE OF GOOD HOPE.—The climate is mild and healthy, but very dry. The seasons are the reverse of those in Europe; December and January being the warmest, while June and July are the coldest months. The mean temperature for the winter months at Cape Town, is about 57° Fahr. The prevalent diseases appear to be rheumatism and dysentery. Invalids from India are often benefited by spending a season at the Cape or Natal.

NATAL.—This British Colony lies on the south-eastern border of Africa, about 800 miles from the Cape of Good Hope. There may be said to be only two seasons—the summer from October to March, and the winter from the beginning of April to the end of September. Even in the latter, during the coldest months of 1858, the temperature was occasionally 78° Fahr. in the neighbourhood of Maritzburg; while in the hottest months it was occasionally below 60°. (*The Colony of Natal.* By Robert J. Mann, M.D., p. 48, London, 1860.) Notwithstanding its almost tropical position, and the frequent vicissitudes of temperature, Natal is very healthy. Newly arrived settlers in Natal remain for months under canvas, without the slightest injury.

454. *Canada—New Brunswick—Nova Scotia—Newfoundland.*

CANADA.—This British Colony of North America is divided by the Ottawa river into the provinces of Upper or West Canada (chief city, Toronto) and Lower or East Canada (chief city, Quebec). The climate is marked by extremes, the winter being excessively cold, while the summers are just as hot. The coldness of the winter is mitigated, however, by the dryness of the air and the absence of high winds; while the way in which the Canadian protects himself with thick furs, and his house by well-managed stoves, enables him to set the frost at defiance. A gentleman, resident in Canada for six years, told the Author that, with the thermometer −20°, he never felt the cold so raw and unpleasant as in London at the beginning of January 1864. The climate is also much milder in Upper than Lower Canada; but that of both provinces is healthy and conducive to longevity.

NEW BRUNSWICK.—The climate of this portion of British North America resembles that of Canada; the winters being very severe and the summers excessively hot. The winter, however, is mitigated by the length and fineness of the autumn—the "Indian summer."

NOVA SCOTIA.—This peninsula of North America, forming part of the British colonial territory, is separated from New Brunswick by an isthmus 14 miles across. The climate is remarkable for vicissitudes of temperature, prolonged falls of rain, and occasional fogs. The inhabitants, nevertheless, are said to enjoy a remarkable degree of health.

NEWFOUNDLAND.—This island, lying off the coast of Labrador, is separated from the mainland by the Strait of Belleisle, which is 12 miles across. The surface of the island is mostly marshy, and the soil unfavourable to cultivation. The winters are less severe than in Upper Canada, but the summers are shorter. Dense fogs prevail along its banks, sometimes for the greater part of the summer. The annual mortality, however, scarcely exceeds 12 per 1000 of the population, so that the climate must be favourable to the constitution.

455. *West India Islands.*

Invalids should not be sent to any of these islands; for though they are not as unhealthy as was formerly supposed, yet severe fevers and inflammatory diseases are common and run a rapid course. Moreover, the returns show that nearly twice as many cases of consumption originate among our troops stationed here as at home. If a man in search of health will visit them, however, he must only do so between the months of December and April, after the heavy autumnal rains. JAMAICA, the chief of these British possessions, is reputed the most healthy. The BAHAMAS are resorted to by American invalids. In the BERMUDAS and in BARBADOS dysentery, rheumatism, and yellow fever are the prevailing diseases.

456. *Hill and Marine Sanitaria in India.*

The Indian *hill stations* offer a climate which is of great use to convalescents from fever, invalids from local cachexia, &c.; and which exerts a powerful influence in maintaining the health and vigour of Europeans—especially of such as have not been very long in India.

According to DR. W. J. MOORE, of the Bombay Medical Service, the climate of the hill ranges differs from that of the plains in having a mean temperature some 10° to 15° cooler, in being above the influence of the hot winds, and in being more humid during the monsoon season. Various localities differ in minor points: in the *Himalayas*, a greater elevation will procure a colder climate; the fall of rain has sometimes been excessive at *Mahableshwar*, at *Nynee Tal*, &c.; while at many of the hill stations sanitary laws are too much disregarded, and too little care is taken to protect the system from the inclemencies of the weather.

The climate of the hill stations in the *Himalayas*, of *Mount Aboo*, of *Ootacamund*, *Bangalore*, &c., as well as of *Matheran* and *Mahableshwar* in *Bombay*, is of great service to the European whose health has deteriorated from a residence on the Indian plains. The air invigorates both mind and body. But it is unsuitable where there is structural disease of any internal organ; diarrhœa and dysentery being increased by it, while affections of the brain and lungs and liver are much aggravated. Cholera, dysentery, and malarious fevers are less prevalent and fatal in the hill stations than in the plains below. Yet these affections are met with at high elevations; as are also cases of hepatitis, tuberculosis, typhus, croup, diphtheria, small-pox, rheumatism, neuralgia, severe catarrh, and hill-diarrhœa.—It has been well suggested that European troops should be located more on the hills and less on the plains than is now the case; not waiting until they are weakened by disease, climate, and service to be sent to these more temperate and less malarious regions.

Many of the diseases which are aggravated by the hill stations of India, are much benefited by the greater purity and uniformity of the *sea climates*. The invalid who has been prostrated by the harsh parching winds of the interior, not only has his bodily sufferings greatly ameliorated by the moist fresh breeze from the sea, but the mere sight of the ocean raises his powers by giving him hope and confidence. It is necessary to select an open spot, with high cliffs and a rocky shore; low, flat, sandy coasts being generally unhealthy in the tropics. The proximity of the island of *Martaban* to Madras and Calcutta, as well as its geological characteristics, have led DR. MACPHERSON to recommend it as a marine sanitarium.

The weak-chested, and those persons of a strumous habit predisposed to phthisis, are often greatly benefited by a residence in India;

and those who can afford it might spend a winter in India with every advantage; but where tubercle is deposited in the lungs, the climate seems to accelerate the progress of the disease. Individuals of a phlegmatic temperament who have more or less difficulty in digesting their food, and who possess a languid circulation, often improve very much in this country.

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457. *Australia—Tasmania—New Zealand.*

AUSTRALIA.—The immense extent of territory known as Australia, in the South Pacific Ocean, possesses a temperate climate which appears very favourable to the European constitution. In speaking of this antipodal region it is necessary to remember that the meteorological phenomena are generally the reverse of those experienced in this country. Thus the months of December, January, and February correspond to our summer, and have a mean temperature of about 80°; while those of June, July, and August constitute the winter, the thermometer marking on an average 40° in an exposed situation.

In May 1836 the number of settlers in the district of *Victoria* (formerly Port Philip) was 177. At the end of a quarter of a century (April 1861), the inhabitants had increased to 540,322. The total area of Victoria (86,831 miles) is nearly as large as that of England, Scotland, and Wales united. *Melbourne*, the capital of Victoria, is the most prosperous commercial city of the Southern world. The mean annual temperature is 57°; extreme cold in winter, and excessive heat in summer (except nine or ten times in the season, under the influence of hot winds), being unknown. Although the annual rainfall is 26 inches (that for London being 21.6), yet the average number of wet days is much less than in Great Britain; for in Melbourne the rain falls with great violence, but it only lasts a few hours, and then the sky clears. A continuance of cloudy weather is unknown. There is a genial sun, with a pure, dry, stimulating air.

DR. S. DOUGAN BIRD says (*Australasian Climates, and their Influence in Pulmonary Consumption*, p. 41, London, 1863) that the main characteristics of the Victorian climate are these:—"It is a temperate warm climate, whose average summer heat is but two or three degrees above that of London; while in winter it is warmer than Nice or Naples, and as warm as Valencia or Barcelona; and actual cold is never felt at, or near, the sea level. The air is generally dry, always stimulating and ozoniferous; but so tempered by the prevalence of ocean winds, that it is prevented from becoming irritating, like that of Nice or Provence. With this there is a very large proportion of sunny cheerful weather during the whole year. In no climate with which I am acquainted is there so much pleasant weather during the year as in Victoria—so many unclouded days, when it is neither too hot nor too cold—and an invalid has, consequently, every temptation to be in the open air."

Tuberculosis (*i.e.*, scrofula, phthisis, tabes mesenterica, and tubercular meningitis) is rare in Victoria, the mortality not being one-fourth of that in Great Britain from the same cause. Yet the population is composed of those who, hereditarily, from occupation and mode of living (except that animal food is much cheaper), are as much predisposed to consumption as the inhabitants of London or Liverpool. It should be added that these statements have been controverted, and that phthisis has been shown to be more common than is here allowed, but there can be no doubt that the climate is exceptionally healthy.

At *Sydney* (the capital of New South Wales, East Australia) the mean annual temperature is about 65°. Heavy rains fall between June and September. Disease is said to assume a milder form here than in European countries. Dysentery and pulmonary affections are, however, not uncommon. The winters are colder than at Moreton Bay though this season is very salubrious and agreeable.

Moreton Bay (Queensland, East Australia) has a fine winter climate which proves very useful in advanced cases of phthisis, when combined with irritability of the system and a tendency to bronchial inflammation. The average temperature on the coast during the cold months is 62° or 63°; the air being soft and sedative, and the weather brilliant and sunny. A few miles inland the ground rises, and the air is more dry and bracing.

In cases of consumption with copious expectoration, and in the chronic bronchitis of old people, *Adelaide*, the chief city of South Australia, may be chosen as a residence. The air is dry, warm, and tonic; the winter temperature averaging 53°.

The best time for leaving this country is from the middle of October to the end of November; when the new home will be reached in about 90 days from Liverpool. Thus, supposing the traveller to arrive about the end of January, he will find a pale-blue cloudless sky, and the thermometer at 90° in the middle of the day without any unpleasant sense of heat. With a feeling of new life, general exhilaration, and a good appetite, he will experience a desire to be at work. The difficulty seems to be to persuade the phthisical that they are not cured; and that the general rules of hygiene must be adopted, and all excesses avoided, to prevent the pulmonary mischief again starting into activity, or to escape hepatic congestion, or that he may obtain and retain health and vigour.

TASMANIA.—This island (known as Van Diemen's Land until the abandonment of transportation in 1852) is separated from the southernmost point of Australia by Bass's Strait. The chief towns are *Hobart Town* in the south, and *Launceston* in the north; the climate of both being salubrious and delightful, and highly conducive to longevity. The latter port is reached in twenty-four hours, by steamer from Melbourne, and is beneficial to such cases as are usually sent to Pau. The air is moist, sedative, and equable. In the winter months of June, July, and August there is never great cold during the day. The mean annual temperature of Hobart Town is 52°. Tasmania is described as "the Garden of Australia."

NEW ZEALAND.—This group in the South Pacific Ocean, consists of two principal (the North and Middle) and several smaller islands. The chief British settlements are *Auckland*, *New Plymouth*, or *Taranki*, *Hawkes Bay*, and *Wellington* in the North Island: with *Nelson*, *Marlborough*, *Canterbury*, and *Otago* in the Middle Island. The temperature of New Zealand is marked by its uniformity. The mean of the warmest month at Auckland is 68°, and of the coldest at Otago 42°. The climate, which in general terms may be described as mild and soft, is favourable to the European constitution.

It will be seen from the places (430 to 442) that the United Kingdom is well provided with seaside towns which are suitable for invalids, and that it is only when a warmer and more equable temperature is required that it is necessary to send patients away from this country. As a rule, the East coast of England is colder and more bracing than the West, and the West than the South, while the South-west corner of Ireland (Glengariff) and Ventnor in the Isle of Wight are warmer than any.

Although the woodland scenery of England can vie with any in the world, the absence of mountains and of suitable accommodation for invalids in inland places makes it generally advisable to send patients abroad for such localities. Some of the Scotch hydropathic establishments somewhat meet the requirements, but it is in the extensive pine woods of the Black Forest and the Taunus districts in Germany that wood and mountain are found together, and where these have been laid out with a view to the necessities of invalids. Of many such places the following may be named: Harzburg, Wildbad, Schwalbach, Schlangenbad Rippoldsau, &c.

For typical mountain health resorts, no place nearer England can vie with Switzerland, which is at once the "playground of Europe" and the abode of the valetudinarian. The magnificent scenery, warm sunshine, crisp sparkling pure air, the splendid accommodation everywhere, the enormous choice of locality and altitude, ranging up to 8000 feet above the sea level, render it at once an ideal place for those who are likely to benefit from the effects of strong light, crisp pure air, and the peculiar benefits of altitude.

The so-called baths of Switzerland will be referred to in another place, but for the guidance of those seeking temporary mountain homes in Switzerland it will be only possible to name a few of the chief. It should be remembered that people of an excitable nervous temperament do not always bear well heights of over 5000 feet, which sometimes cause sleeplessness, headache, oppression of breathing, and possibly mountain sickness, while, on the other hand, many find that in higher altitudes they can compass feats they never dreamt of, and that walking, which may have been a labour at home, becomes one of the greatest pleasures in life.

Bernese Oberland and about Lucerne.

		Feet.			Feet.
Thun Spiez	Lake of Thun	1837	Axenstein Axenfels	above Brunnen	2330
Interlaken		1863	Rigi Staffel		5210
Giessbach, above Brienz		2166	Rigi Scheideck		5407
Mürren		5348	Rigi First		4747
Grindelwald		3468	Rigi Kaltbad		4728
Meiringen		1968	Seelisberg		2628
Rosenlaui		4368	Sonnenberg		2772
Lucerne Hertenstein Brunnen, &c.	on Lake of Lucerne	1434	Engelberg		3314

About Engadine.

	Feet.		Feet.
Ragatz	1709	St. Moritz	6090
Pfafers	2234	Pontresina	5915
Thusis	2448	Maloja	5941
Davos Platz	5105	Tarasp	4265

Off the Rhone Valley.

	Feet.		Feet.
Aigle	1375	Saas Fee	5900
Villars	4166	Zermatt	5315
Champéry	3389	Riffel Berg	8429
Lavey	1420	Bell Alp	7153
Leuk Bad	4643	Rieder Alp	6388
Evolena	4521	Eggischorn	7362
Zinal	5505		

Geneva and Savoy Districts.

		Feet.		Feet.
Geneva	on Lake of Geneva	1263	Glion	2254
Vevey			Les Avants	3212
Montreux			Aix-les-Bains	850
Territet			St. Gervais	2657
Ouchy			Chamounix	3445
Lausanne		1689		

XXI. MINERAL WATERS.

458. *General Observations.*

Mineral waters have been used in medical practice since the days when ÆSCULAPIUS was worshipped throughout Greece, and when his temples were erected in healthy places, near wells which were believed to have healing powers. Like many other important remedies, their virtues have been regarded with singular scepticism at one time, and with blind credulity at another. The practitioner in the present day wisely attempts to keep the middle course; neither over-estimating, nor unduly depreciating, the value of these agents in subduing disease.

A mineral water is merely a complicated medicine, containing various salts and gases blended together. The ingredients are generally derived from the soil or rocks through which the waters pass; and they consist especially of chloride of sodium, sulphate and carbonate of soda, sulphate and carbonate of magnesia, some salt of iron, carbonate of iron, bromine and iodine, organic matters (barègine), and more or less of a free gas (sulphuretted hydrogen, carbonic acid, nitrogen, or oxygen). The cause of the temperature of hot springs is a mystery; and philosophers know not whether it is due to the internal heat of the globe, to electricity, to chemical decomposition, or to volcanic agency. The heat is generally much under that of boiling water, and in most springs it is found to have varied but little during a long succession of years. The only waters which have a temperature as high as 212° Fahr., are the geysers or hot springs of Iceland.

Mineral waters are administered internally and applied externally. They act chiefly by diluting and purifying the blood; increasing the processes of secretion and excretion, so that morbid matters are eliminated from the system. They likewise stimulate the cutaneous and visceral circulation. It cannot be doubted that these effects are in some measure due to the chemical composition and temperature of the waters; though it is allowed on all hands that the beneficial influence is largely aided by the locality of the spring, the nature of the climate, the absence of business and care, the diet, and the general regimen.

Mineral waters are useful only in chronic disorders, where there is but little, if any, structural change; or in cases where disease is threatened. Hence the sufferers sent to the Spas are for the most part affected with skin diseases, strumous and other rebellious ulcers, stiffness of joints and limbs from old sprains, &c.; chronic gout, rheumatism, sciatica, or neuralgia; gastric, hepatic, or renal disorders, sluggish action of the intestines, particularly of the colon and rectum; paralytic affections, where all active disease has been subdued; hysteria or hypochondriasis; or with certain functional disorders of the uterine system. Nothing but mischief can arise where there is either acute disease, tuberculosis, cancer, fatty degeneration of any important structure, aneurism, or mischief about the heart or large vessels. Where there is any predisposition to cerebral, pulmonary, gastric, or intestinal hæmorrhage all thermal mineral waters (especially in the form of baths) are contra-indicated. The young and the very aged, moreover, will derive little or no benefit: and in pregnancy the use of the springs, to say the least, demands great caution.

The time for residing at some of the Spas is from the beginning of May until about the close of September; but at several of the foreign ones it is only from June until the end of August. At a few of the hot springs, invalids (chiefly the gouty) remain through the winter. The treatment, however, is not commonly to be prolonged beyond six or eight weeks; and often three or four will suffice. The invalid should not be led to expect immediate relief. And he should be cautioned against the popular idea that the benefit derived will be in proportion to the quantity of water taken; while it may be as well to let him know that "critical eruptions" (psydracia thermalis) and "critical fluxes" are neither necessary nor advantageous. As a rule, bathing and drinking ought not to be commenced on the same day; and at first only a moderate quantity of the water should be taken,—two or three of the ordinary glasses before breakfast, and one or two in the evening. After a time, a glassful may also be taken before dinner. Very hot water is to be cooled, and very cold to be warmed, before drinking.

When the strength will permit of it, early rising (at about six o'clock) is to be recommended, so that the doses may be taken before breakfast. The contents of the tumbler are to be sipped slowly and methodically, not hastily swallowed like a nauseous draught; and an interval of 15 minutes, at least, should be allowed between each glass, which time may well be spent in a short walk. An hour after the last glass, a light breakfast is to be taken. Then, a gentle saunter, the bath, reading, writing letters, &c., will agreeably occupy the hours till the early dinner; at which fruit and raw vegetables had better be avoided, while a moderate quantity of light wine, or of mild bitter beer, can be permitted. An excursion to the objects of interest in the neighbourhood, perhaps one or two more glasses of water—never more than half the quantity taken in the morning—a light supper at 8 o'clock, and bed two hours afterwards will complete the day's work.

Mineral waters are sometimes classified into the thermal or hot, and the cold springs. But a more useful division is into chalybeate, sulphurous, gaseous or acidulous, saline, iodo-bromated, and muriated lithia waters.

Class 1. *Chalybeate or Ferruginous Waters.*—A large number of waters contain small quantities of iron, but none are considered as belonging to this class unless the proportion of metal is considerable. The chief acidulous chalybeates (those which contain much carbonic acid gas) are the waters of Schwalbach, Spa, Pyrmont, Brückenau, the Cambray well at Cheltenham, Moffat, and Tunbridge Wells. The principal saline acidulous chalybeates (such as, in addition to iron and carbonic acid, have a certain amount of sulphate and carbonate of soda, with chloride of sodium) are the springs of Franzensbad, Bocklet, Harrogate, &c.—Chalybeate waters are useful in anæmia, and in functional disorders of the generative organs.

Class 2. *Sulphurous Waters.*—They have the odour of rotten eggs, owing to their impregnation with sulphuretted hydrogen. The chief sulphurous thermals are those of Aix-la-Chapelle, Baden near Vienna, Aix-les-Bains, Barèges, Bagnères de Luchon, St. Sauveur, Cauterets, Eaux-Bonnes, and Eaux-Chaudes: the higher the temperature, the more stimulating the effect of the water on the nervous and vascular and cutaneous systems. Amongst the cold sulphurous springs may be mentioned Harrogate, Strathpeffer, and Bocklet. Sulphurous waters are recommended in cutaneous, hepatic, uterine, rheumatic, gouty, neuralgic, and old constitutional syphilitic diseases. In chronic poisoning by mercury, lead, or copper they help to eliminate the injurious mineral. The excretion of carbonic acid by the lungs and skin, as well as of urea and uric acid by the kidneys, is probably increased by these waters.

Class 3. *Gaseous or Acidulous Waters.*—The carbonic acid gas gives these waters a sharp acidulous taste, with a sparkling appearance. The most important are the thermal springs of Vichy, and the cold of Fachingen and Bilin. The refreshing and exhilarating waters of this class are recommended in dyspepsia, hepatic derangement, gout and rheumatism, &c.

Class 4. *Saline Waters.*—Those which are purgative and have sulphate of soda or sulphate of magnesia as their chief ingredients, are Epsom, Cheltenham, Leamington, Llandrindod (Wales), Seidlitz, Friedrichshall, Hunyadi-Janos, Püllna, Carlsbad, and Marienbad. They are useful in habitual constipation, torpidity of the liver, inactivity of the abdominal viscera generally, chronic rheumatism, sciatica, and perhaps in diabetes (Carlsbad especially). Those saline waters which have chloride of sodium as their characteristic ingredient, are Wiesbaden, Baden-Baden, Homburg, Kissingen, &c. They are employed in cases of scrofula, rheumatism, dyspepsia from over-work, and irregularity of the bowels. The sulphate or carbonate of lime, or both, predominate in the thermal waters of Bath and Buxton; while the carbonate or bicarbonate of soda is the characteristic ingredient of the thermal springs at Ems, Teplitz, &c.

Class 5. *Iodo-bromated Waters.*—The springs at Kreuznach are the most celebrated of this class; while in England there is the Woodhall Spa. The waters are used in all forms of scrofula, in many chronic skin diseases, in uterine tumours, and in old-standing constitutional syphilis.

Class 6. *Muriated Lithia Waters.*—The springs of Baden-Baden have considerable reputation for the cure of gout and the uric-acid diathesis, owing to the chloride of lithium which they contain.

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459. *Tunbridge Wells, in Kent and Sussex.*

This town is more visited on account of its dry bracing air, beautiful varied scenery, and fine walks, than for its chalybeate Spa. The water of the latter has a temperature of 50°, is feebly ferruginous to the taste, contains about a quarter of a grain of *oxide of iron* to the pint, and has just sufficient *carbonic acid* to hold the metal in solution. Frequently, increased doses of steel are given with the water; or sulphate of magnesia may be added, if an aperient be needed. The chief value of the spring is witnessed in cases of anæmia and chlorosis, debility inducing dyspepsia, and in general lassitude from a too sedentary mode of life.

460. *Bath, in Somersetshire.*

The thermal mineral springs, situated in the southern part of the town, near the Abbey church, are four in number. The temperature of the waters varies from 120° Fahr. to 104°. Speaking generally, the solid contents are about ten grains to the pint. The chief constituents are *sulphate of lime*, *sulphate of soda*, *chloride of sodium*, *chloride of magnesium*, *carbonate of lime*, *silicic acid*, and a comparatively small portion of *iron*. The gases evolved consist of *nitrogen* in large quantity, with *oxygen* and *carbonic acid*.

The sparkling appearance of the waters at the springs is due to the carbonic acid they contain. The quantity generally drunk is from one-quarter to one pint before breakfast, and again in the afternoon. Taken quietly and leisurely, the effect is usually to raise the temperature of the body, to quicken the circulation, to increase the appetite, and to promote the salivary and renal secretions. When headache, loss of appetite, thirst, nausea, mental depression, and a diminished flow of urine follow their use, they should either be discontinued or taken in very small doses.

The accommodation for bathing is excellent; there being good douche, shower, vapour, reclining, swimming, and chair baths. By the latter, worked with a crane, a helpless invalid is lowered into and raised from the water. The bath is to be taken three or four times a week, not too near the meal times, and the patient should remain in it from ten to thirty minutes. The proper temperature is 96° to 98° Fahr.

The spring and autumn are the best seasons for taking the baths and waters, though they may be advantageously employed in the winter. And the diseases which are most benefited by them are sub-acute gout, chronic rheumatism, sciatica, neuralgia, lumbago, rheumatoid arthritis, contracted or rigid joints, dyspepsia, paralysis from rheumatism or metallic poisoning, leucorrhœa, chorea, anæmia, lepra, eczema, and psoriasis.

461. *Cheltenham, in Gloucestershire.*

Since the cure of George the Third by the waters of the Royal Old Wells, this Spa has been a fashionable resort. Situated eight miles E.N.E. of Gloucester, Cheltenham offers an agreeable permanent residence, particularly for valetudinarians from the East or West Indies. The climate in winter is mild and equable, but rather moist. The town is sheltered by the Cotswold and other hills from the north and east winds. The season lasts from about the middle of April to the beginning of October.

The waters are chiefly taken internally. There are several cold springs, all of them powerfully saline except the Cambray chalybeate. The waters of the ROYAL OLD WELLS contain chiefly *chloride of sodium*, *chloride of calcium*, *chloride of magnesium*, and *sulphate of soda*. They are but slightly gaseous. Some of the wells of the MONTPELLIER SPA have, in addition to the foregoing, a little *oxide of iron* and *iodu-*

retted magnesium saline salts. There is an unusual amount of *silica* in the PITTVILLE saline; while the CAMBRAY spring is strongly *chalybeate.* The Montpellier baths have accommodation for warm and cold bathing, swimming, medicated air, and vapour douches, &c.

These springs enjoy considerable reputation for relieving the diseases engendered by a residence in tropical climates, and hence many old Indians with liver affections resort to them. They are also useful in gouty and rheumatic disorders, in the lithic-acid diathesis, in plethoric and irritable systems, in skin diseases, in dyspepsia with torpidity of the bowels, as well as in some forms of amenorrhœa and chlorosis. The dose is usually from half a pint to one pint before breakfast; it is better to take the water pure, without the addition of any "solution" of the crystallized salts; and it may be warmed if a more than ordinary aperient effect is needed. The spring to be recommended must depend upon whether a simply alterative or an alterative and tonic remedy be indicated.

462. *Droitwich, in Worcestershire* (*Salinæ of the Romans*).

The strong brine here is only used for bathing after dilution. It has been found valuable in cases of rheumatism, sciatica, &c., and was named in Domesday Book as a place of importance on account of its brine springs. These brine baths can be had at GREAT MALVERN, if the town of Droitwich is found dull.

463. *Leamington, in Warwickshire.*

Being less protected by hills than Cheltenham, the town of Leamington, 2½ miles E. of Warwick, has a lower temperature. The climate, however, is genial and bracing, but humid; while it is agreeable and healthy to the flagging invalid during the autumn and winter months.

The springs all lie near the banks of the Leam; their principal salts being—*Chloride of sodium*, *sulphate of soda*, *chloride of calcium*, and *chloride of magnesium*. The chief gas is *carbonic acid*, with great quantities of *nitrogen* and *oxygen*. The most ancient and most used of the springs is the OLD WELL. The water at GOOLD'S SPRING AND BATHS contains more *chloride of sodium*, while CURTIS'S WELL has more *chloride of magnesium* than the others. The VICTORIA WELL AND PUMP-ROOM possesses a weak *sulphurous* and a *saline chalybeate* spring; and so does LEE'S WELL.

The temperature of Leamington waters is about 48° Fahr.; and their action is aperient and alterative. They are suitable for the same class of cases as is sent to the Cheltenham springs; but being more active they agree better with invalids of a torpid habit than with those of a susceptible irritable temperament.

464. *Buxton, in Derbyshire.*

For invalids requiring mountain air Buxton may be recommended. Situated 31 miles W.N.W. of Derby, at an elevation of 900 feet, while some of the neighbouring hills are 2000 feet above the sea, it enjoys a pure bracing air. Like all mountain districts, the climate of Buxton is subject to sudden variations of temperature. The rainfall is rather great; but owing to the absorbent nature of the soil the ground rapidly dries. The season is chiefly from June to October; the winds being sharp and cold late in the autumn, during winter, and early in the spring. Buxton is not to be selected where there is a tendency to internal hæmorrhage.

The Buxton waters issue abundantly from several crevices in the limestone rock at a temperature of 82° Fahr. The chief saline salts in them are—*Carbonate of lime*, *carbonate of magnesia*, *chloride of sodium*, and *calcium* and *potassium*, with *silica*, *carbonate of protoxide of iron*, and traces of *fluoride of calcium* and *phosphate of lime:* though so small is the quantity that, in the whole, they only amount to 18.434 grains in the imperial gallon. In the same amount of water DR. PLAYFAIR found (1852) *nitrogen gas* 206 cubic inches, and *carbonic acid gas* 15.66 cubic inches. According to a more recent analysis by DR. SHERIDAN MUSPRATT (1860) the quantity of *nitrogen gas*, at the moment of issue, is no less than 504 cubic inches per gallon.—As these waters, minus their gases, have only the composition of ordinary spring water, their stimulating effects are generally attributed to the nitrogen. They are, however, chiefly used externally; the accommodation for plunge, swimming, and douche baths being excellent. The good which results from the latter is most marked in cases of gout and rheumatism, in severe sprains and old muscular contractions, as well as in cases where it is wished to stimulate the vascular or nervous or digestive systems.

A pleasant drive from Buxton is to the picturesque village of MATLOCK, built on the slope of a hill, at the base of which flows the Derwent. It is an agreeable summer residence, and its springs supply large tepid baths. The water, however, has no medicinal properties, though the guide books usually describe Matlock as a valuable Spa.

465. *Woodhall, in Lincolnshire.*

This strong-saline spring arises in a plain 3 miles W.S.W. of Horncastle, and contains more *iodine* and *bromine* than any other English water, and resembles that of Kreuznach. It has also 189 grains of *chloride of sodium* in the pint, with a little *chloride of calcium* and *magnesium*, *bicarbonate of soda*, and *sulphate of soda*. The temperature is 50°. A large sum of money has been lately expended in fitting up new buildings, with all modern improvements, for applying the water in the form of baths, douches, or in vapour. Massage is carried out, and there are rooms for the cure by inhalation of diseases of the respiratory tract. The water is used externally in rheumatic and cutaneous affections, and in scrofula. Taken internally, half a pint acts as a mild aperient.

466. *Harrogate, in Yorkshire.*

High and Low Harrogate, half a mile distant from each other, are filled with visitors during the season—from June until the middle of October. The air is pure and bracing, but somewhat humid. The soil is sandy, so that the walks are soon dry even after heavy rain. Low Harrogate is the most sheltered. The most elevated part of High Harrogate is 596 feet above the sea.

There are upwards of fifty different springs, some of which have been in repute since the end of the 17th century. The waters are all cold, being generally warmed artificially before they are drunk. The springs may be divided into four distinct groups:—(1) The strong sulphurous waters. (2) The mild sulphurous waters with alkaline impregnations. (3) The saline chalybeate waters. And (4) the pure chalybeate waters.

1. STRONG SULPHUROUS SPRINGS.—As types of this class may be mentioned the old Sulphur Well in the Royal Pump Room and the strong Montpellier Sulphur Well in the Montpellier Gardens. They are both impregnated with *sulphuretted hydrogen gas* (upwards of 25 cubic inches in the gallon); their chief salts being *chlorides of sodium* and *calcium* and *potassium* and *magnesium*, *sulphide of sodium* and *carbonate of lime*, with traces of *bromide of sodium*, *iodide of sodium*, *&c.* The waters are alterative, aperient, stimulant, and diuretic; they are taken internally, and used as baths. The dose varies from half a pint to a pint and a half, in three or four divided quantities, before breakfast.

2. MILD SULPHUROUS SPRINGS WITH ALKALINE IMPREGNATIONS.—The two most important are the mild Montpellier Well and the spring at the Victoria Gardens. They contain much less *sulphuretted hydrogen*, less *chloride of sodium*, and less *chloride of magnesium* than those of the preceding group; but they have in addition *carbonate of magnesia.* They are antacid, alterative, diuretic, and deobstruent; and are used externally as well as internally.

3. SALINE CHALYBEATE WATERS.—One of these springs is in the Cheltenham Pump Room, the other in the Montpellier Gardens. In addition to the salts already mentioned they contain *carbonate of iron*, so that they have a tonic action superadded to their other properties.

4. PURE CHALYBEATE WATER.—The springs of the Tewit and St. John's Well have almost the composition of pure water, with the addition of a small quantity of *carbonate of iron.*

Invalids with all forms of chronic disease visit Harrogate to drink the waters. But the cases most likely to derive benefit are the following:—Imperfect digestion in men too fond of good living, where the bowels and liver are inactive; habitual constipation; obesity; indurations and chronic swellings of the glands, joints, &c. (the strong sulphur springs); chronic skin diseases, such as eczema, lepra, impetigo, acne, pityriasis, lichen, &c. (the sulphur, beginning with the mild); gout and rheumatic affections (the strong sulphur); threatened phthisis, especially in young women with disordered menstruation (the mild sulphur, alternately with pure chalybeate); strumous affections (the saline chalybeate); and lupus, constitutional syphilis, chronic ulcers, &c. Very frequently great advantage is derived from the external use of the strong sulphur waters, combined with the internal administration of the chalybeate.

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467. *Llandrindod, Wales,*

Is 700 feet above the sea, sheltered by the Radnor Forest, 2000 feet high. The air is bracing. The season is from May to October. There are seven springs here, divided into three classes—saline, sulphuretted, and chalybeate. The saline are laxative, alterative, and diuretic, and are used in atonic dyspepsia, certain liver affections, constipation, and diabetes. The sulphuretted are beneficial in gout, rheumatism, lumbago, sciatica, and skin affections. The chalybeate are used in anæmia, &c.

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468. *Moffat, Dumfriesshire,*

Is a pleasant health resort with two important springs. The Heartfell water is aluminous and strongly chalybeate, while the Sulphur Well contains chiefly chloride of sodium, with a little sulphuretted hydrogen, like the mild sulphurous spring at Harrogate. The indications for their use would be the same, which see.

469. *Strathpeffer, Ross-shire,*

has become a popular resort for those suffering from gout, rheumatism, scrofula, and skin eruptions.

The springs are two in number, similar in nature, but one much milder than the other. They are like the strong and the mild sulphurous springs at Harrogate. The Upper Spring contains 18 gr. in 20 oz. chiefly sulphates of soda and lime, with 3¼ cubic inches of sulphuretted hydrogen. The Lower Spring is milder.

470. *Spa, in Belgium,*

is situated near the frontier of Rhenish Prussia, in the beautiful valley of the Ardennes, at the foot of a steep mountain sheltering it from the north winds. It possesses the only important mineral springs found in Belgium. The waters of the principal well—the Pouhon—have a temperature of 50° Fahr., and are largely charged with carbonic acid; the chief solid constituents being the *bicarbonate of soda, iron, lime,* and *magnesia.* Spa is rather more than 1000 feet above the sea level, and is bracing.

The wells of the Sauveniere, Groesbeck, Geronstere, and the three Tonnerets are situated at short distances from the town. Their waters are similar to those of the Pouhon, but the proportion of iron is smaller. The Tonnelet springs are the most gaseous. The water of the last discovered spring, the Barisart, has a temperature of 52°, contains more carbonic acid than the Pouhon, and less iron. It sometimes proves useful when the Pouhon disagrees. This spring is much frequented.

These gaseous chalybeate waters are employed to the extent of two or three pints daily, commencing with a couple of glasses before breakfast. They impart power, strengthen the digestion, and are valuable in such cachectic and other diseases as require a ferruginous tonic. The season is from the commencement of May until the end of September. During the early part of October the weather is often wet and cold.

CHAUDFONTAINE, in the valley of the Vesdre, has a thermal mineral spring which is used for bathing by sufferers from chronic rheumatism, neuralgia, irritability of the nervous system, &c. The temperature of the water is 92° Fahr. The solid contents are scarcely more than two grains in the pint, and consist of *chloride of sodium* and *carbonate of lime.* The surrounding country is very pretty; while there is much to be seen of great interest in the neighbouring manufacturing town of Liége—five miles distant.

471. *Barèges, in the Pyrenees.*

This village, on the Gave de Bastan, 47 miles from Pau, is about 4000 feet above the sea. The season lasts from the beginning of June to the middle of September. Neither Barèges nor its situation are attractive, and it is subject to sharp variations of temperature.

There are nine sulphurous springs, temp. 86° to 111°, and they are used in chronic rheumatism, glandular enlargements, and some skin eruptions.

The waters are taken internally, as well as employed in the form of baths, douches, lotions, and injections.

472. *St. Sauveur, in the Pyrenees.*

Situated on the Gave de Pau, in the valley of Laverdan, this watering-place (2500 feet above the sea) is 44 miles from Pau, 4 from Barèges, and 1 from Luz. The still Alpine air is mild, and yet bracing. The season is from May until October.

The waters are milder than those of Barèges, but have the same constituents. Their temperature varies from 135° to 80° Fahr. They are more used by women and children than any other baths in the Pyrenees. Hysteria, neuralgia, hypochondriasis, leucorrhœa, and irregularities of the catamenial flow, are much benefited by them. When taken internally they have to be diluted, their greasy properties, from the excess of barègine, being so great. They are mostly used as reclining and douche baths, vaginal injections, &c.

473. *Bagnères de Luchon, in the Pyrenees.*

This town, the queen of Pyrenean health resorts, is in a magnificent valley surrounded by noble mountains 85 miles from Pau, and 2000 feet above the sea. It is fashionable and expensive. The season lasts from June to the beginning of October. The arrangements for drinking the waters are all good.

The springs have a temperature of 60° to 154°, have a sulphurous odour, and contain sulphuret of iron, manganese, and sodium, 2 gr. in 20 oz. The waters are efficacious in chronic skin diseases, in stiffness of limbs after dislocations and fractures, in old ulcers, chronic bronchitis, rheumatism, and neuralgia. Also in some cases of torpid digestion, anæmia, hypochondriasis, hysteria, &c. Their effects are injurious when there is a tendency to plethora and nervous irritability. They are drunk, in doses of three or four glasses, pure or mixed with milk; and are used as baths, injections, lotions, eye-washes, &c.

474. *Cauterets, in the Pyrenees.*

This celebrated watering-place, imbedded among the mountains, in the valley of Laverdan, 3200 feet above the level of the sea, is mild and more sheltered than Barèges, and much frequented by Spanish invalids. July and August are the best months, but September is also good. There are some 32 sulphuretted saline springs, the temperature of the warmest being 122° Fahr.

Some of the waters are very stimulating, causing headache and feverishness. They contain *iodine*, *nitrogen*, *sulphuret of sodium*, *sulphate of soda*, *chloride of sodium*, *silica*, &c. *Glairine* or *barègine*, a peculiar gelatinous substance, is also present. They are not to be used where there is any tendency to inflammatory affections. The cases most benefited by drinking the waters are chronic derangements of digestive organs, chronic rheumatism and rheumatoid arthritis, chronic skin diseases, uterine congestions or irritations, bronchial catarrh, the early stages of phthisis, and strumous affections. The waters are often taken diluted with milk.

The baths are especially valuable in rheumatic affections, scrofula, and obstinate skin diseases.

475. *Eaux-Bonnes, in the Pyrenees.*

Eaux-Bonnes, a village in a sheltered valley at the foot of the Pic de Gers, is 22 miles from Pau. The air is remarkably pure and fresh, with very little wind. The altitude above the sea level is 2400 feet. The active mineral waters, of which the supply is scanty, have been deemed efficacious in the early stages of affections of the throat, tubercular and other chronic diseases of the respiratory organs. They are likewise useful in scrofula generally, in chlorosis, in dyspepsia from want of tone, and in amenorrhœa. The springs are slightly alkaline, and contain *chloride of sodium*, *sulphates of lime* and *soda*, *iodide of sodium*, &c. Their temperature is about 90° Fahr. The sulphurous waters are mildly stimulating; and are taken internally, and less frequently applied in the form of baths. In the commencement only small doses (three ounces) should be taken, the quantity being gradually increased to three or four glasses of six ounces each. While undergoing treatment the patient is encouraged to live as much in the open air as his symptoms will permit. A residence of about a month, for one or two seasons (the seasons lasts from June to the middle of September) is generally deemed sufficient. Afterwards a trip to Biarritz, for the enjoyment of sea-bathing, may often be taken with advantage.

476. *Eaux-Chaudes, Pyrenees.*

The position of this village, hemmed in by precipitous limestone cliffs, is wild and secluded. It lies about 26 miles from Pau and 4 from Eaux-Bonnes. The season lasts from the beginning of July until October. It is not now much in vogue.

477. *Vernet les Bains, in the Eastern Pyrenees.*

The little village of Vernet, 16 miles from Perpignan, is placed in a deep well-sheltered valley. The waters belong to the thermal sulphurous class, but are only feebly charged with solids—amongst others, with sulphuret of sodium.

Where a long course of weak sulphur waters is needed, these baths may be resorted to in the winter as well as in the summer months. Sunny walks may be had on most days in winter, the climate being mild and equable. The waters are taken internally, and employed as warm and vapour baths; and this combination of drinking and bathing is thought efficacious in chronic chest affections.

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478. *Panticosta, in Arragon.*

This remarkable Spanish watering-place, 56 miles from Pau, is situated at a level of 5800 feet above the sea. It is romantically placed in one of the little green valleys of the Pyrenees; being surrounded by the lofty granite mountains, except at one part through which flows the river Caldarés. There are four springs; two being saline, one sulphurous, and one ferruginous. The chief source is the FUENTE DEL HIGADO, which contains *nitrogen* in large quantity, with feeble proportions of *sulphate of soda*, *chloride of sodium*, *carbonate of lime*, *chloride of magnesium*, and *silica*. Its waters are agreeable, have a temperature of 81° F., and numerous gas bubbles (owing to its free nitrogen) escape with it.

The waters taken internally increase the secretions of the liver and kidneys and skin; produce a sedative effect on the system; increase the appetite and general powers; and, in pulmonary cases, relieve the cough. They are particularly recommended in laryngeal phthisis, in hæmorrhage from lungs or stomach, or uterus, and in chronic irritation of the bronchial or intestinal mucous membranes. Where there is softened tubercle, or much debility of system, they do harm. The best part of the season is from the beginning of July to the end of August.

479. *Vichy, in Central France.*

This important alkaline thermal bath is situated on the right bank of the Allier, in a large open valley, surrounded by hills covered with vineyards. The altitude is 780 feet. The air is temperate and pure. The season lasts from the middle of May until the same time in September.

The springs used at Vichy for drinking and bathing are nine in number; the waters all being limpid, and having somewhat the taste of soda water. *Bicarbonate of soda* and *carbonic acid gas* form the predominating ingredients; but they also contain small quantities of the *bicarbonates of potash* and *magnesia*, with the *arseniate of soda*. There is also some *barègine*, most abundant at the Source de l'Hôpital.

Wherever the use of strongly alkaline waters is indicated, those of Vichy will prove useful. They may be taken internally, or employed as baths; or used in both ways at the same time. The diseases which derive most benefit are,—pulmonary catarrh, debility and irritability of the digestive organs; chronic enlargement of the liver and spleen; uric-acid gravel and calculi; vesical catarrh; chronic gout and rheumatism; diabetes; and some cases of albuminuria. Obesity has been lessened by these waters; and they might be employed with advantage where the blood contains an excess of fibrin.—The dose is from half a pint to two pints daily; but they must not be continued too long, lest a super-alkaline condition of the blood be induced. The spring of the Grande Grille is in most repute, and is especially useful in liver diseases; while that of the Célestins is best for disorders of the urinary organs, as well as in the uric-acid diathesis. The Hospital spring is in favour for chronic gastro-enteritis. The iron springs are prescribed for women and children after intermittent fevers, and also for dyspeptics requiring iron.

The Vichy waters are exported in considerable quantities, and it is supposed without their undergoing any deterioration.

Vals, altitude 2475 ft., possesses several springs, all alkaline from the presence of *bicarbonate of soda*, but slightly differing in the proportion of the saline constituents. The St. Jean is the weakest, and is useful chiefly in dyspepsia. The Précieuse and Désirée are more alkaline and slightly laxative; they are employed in gouty and renal affections. The Madeleine and Rigolette contain a small proportion of *iron*, and are considered to be invigorating.

480. *Auvergne, Mont Dore, in Central France.*

Mont Dore, 3400 ft. above the sea, is the highest and most frequented health resort in Central France. Hotels expensive and bad. Of the nine springs two only are drank, La Madeline and the Raymond. The latter contains the most iron. The other waters are used for baths. The warm springs range from 109° to 114°. They are weak alkaline waters, containing about 1 gr. in 1 oz. of salts: bicarbonates of soda, potash, and chloride of sodium. They are used in the form of baths, vapour, spray, douches, gargles, &c.

The effect is to increase the perspiration; and at the end of a few days to produce "the bath-fever" (lassitude, depression, constipation, &c.), which soon passes off. The invalids who will derive benefit from a visit to Mont Dore are such as have chronic pulmonary catarrh, some kinds of asthma, rheumatism, and congestion of the liver. Mischief will result to persons of a languid circulation, and such as have a tendency to hæmorrhage.

The season is from the middle of July to the end of August; but the waters should not be used for more than a fortnight. The visitors who drink them take three or four glasses daily.

481. *La Bourboule, Royat, in Central France.*

La Bourboule, altitude 2600 ft. The Choussy Spring is taken in gout, rheumatism, sciatica, anæmia, and skin diseases.

Royat, altitude 1380 ft., has a pleasant mild climate and is preferable to either of the others in its arrangements for visitors and invalids.

The waters are serviceable in atonic gout, rheumatism, dyspepsia, and catarrhal affections of the genito-urinary passages, anæmia, chlorosis, and some skin affections.

Source Eugénie is the water usually drank. St. Victor, St. Mark, and Cæsar are also used, the latter being the weakest, and containing much carbonic acid, is used as a drinking water.

Baths and douches of all kinds and *salles de pulvérisation* for inhalation, are to be had at the Etablissement. The waters contain minute quantities of lithia and arsenic, as well as alkaline bicarbonates.

482. *St. Galmier, in Central France.*

Altitude 1350 ft. These waters, owing to their richness in *carbonic acid gas*, are agreeable whether taken pure or mixed with wine; while they have the property of hastening digestion, increasing the appetite, and augmenting absorption from the alimentary canal. The chief salts in them are the *bicarbonates of lime* and *magnesia*.

The St. Galmier waters are cold, and resemble Seltzer water. They are in common use at Lyons, being deemed useful in gastric affections, and for preventing the formation of urinary calculi.

Contrexéville (1000 ft.) and Plombières (1310 ft.), Vosges, France. The air is pure and bracing. The season lasts from May 20 to Sept. 20.

The Pavilion spring at Contrexéville contains lime, lithia and iron. It is used in gravel, gout, vesical catarrh, gouty diabetes and biliary affections.

At *Plombières* the water, which is nearly pure, is used for baths in skin affections, gout, rheumatism, &c. A cool chalybeate spring is used for drinking.

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483. *Aix-la-Chapelle (Aachen), in Rhenish Prussia.*

This town, in which Charlemagne was born, and in which he died in 814, about 43 miles W.S.W. of Cologne, is situated in a valley between the Rhine and Maas rivers, and is surrounded by well-wooded hills. It is 450 feet above the sea level. There are eight principal springs,—six thermal and slightly sulphurous, and two cold chalybeate. Their therapeutical effects are due to the high temperature of the water (varying from 111° to 131° Fahr.) and the *sulphur* and *chloride of sodium* contained in it. The latter salt is found in the proportion of about twenty grains to the 16 ounces; while the sulphuret of sodium varies from three-quarters to a quarter of a grain. Of the gaseous constituents the sulphuretted hydrogen is the most active, although it is only present in small quantity. Very rarely the chalybeate springs are employed as an "after-cure;" but they have little power, one containing half, and the others three-quarters of a grain of iron in the sixteen ounces, with some carbonic acid.

In doses of a few glasses these clear, transparent waters do not produce much appreciable effect; their chief use being externally—as vapour baths, douches, shampooing, &c. The baths have considerable reputation for curing scrofula, skin diseases (acne, psoriasis, and prurigo), hepatic and renal complaints, chronic gout and rheumatism, functional derangements of the uterine organs, rebellious ulcers, and the ill effects produced by the use of mercury or lead. In cases of long-standing stiffness about the joints, as well as in sprains, the rubbing and kneading and stretching of the muscles and articulations which are employed prove very efficacious. The springs are to be avoided where there is any tendency to cerebral, pulmonary, gastric, or uterine hæmorrhage. A course of the baths lasts from four to six weeks. The season begins early in June, and ends about the middle of September.

At BORCETTE, or BURTSCHEID, a suburb of Aix, there are several bath establishments. The thermal springs are divided into the sulphurous and non-sulphurous. The most important of the former is the *Trinkquelle;* the water of which contains *chloride of sodium* with *sulphate* and *carbonate of soda*, and has a temperature of 140° Fahr. The *Kochbrunnen* is the most used of the non-sulphurous springs. The waters of Borcette are recommended for the same class of cases as is sent to Aix. The advantage of the former place over the latter is, that it affords a much cheaper residence.

484. *Kreuznach, in Rhenish Prussia.*

The rather nauseous and bitter waters of this Spa have a considerable reputation for the cure of uterine diseases, as well as of most scrofulous affections. The only water used for drinking is that of the ELISABETH-BRUNNEN, having a temperature of 54.50° Fahr. It contains about 90 grains of solid constituents in 16 ounces :—chiefly,—*Chloride of sodium* (73), *chloride of calcium* (13), *chloride of magnesium* (4), *bromide of magnesium* ($\frac{1}{4}$), *oxide of iron* ($\frac{1}{6}$), with a trace of *iodide of magnesium*, &c. The other springs used for bathing are some distance from Kreuznach.

In drinking the waters it is better to begin with small quantities, which may be drunk pure or mixed with hot milk. The baths are generally taken tepid; "mother lye" (the brownish glutinous liquid left in the boiling pans, after the salt has been crystallized and removed) being added to the water, in proportions suitable to the requirements of each case. In uterine affections, fomentations and vaginal injections are employed in addition to the baths.

The Kreuznach waters have proved valuable in congestions of the uterine organs, as well as in chronic inflammatory affections of these parts, in hypertrophy and induration, in uterine displacements, and in derangements of the menstrual functions. True fibroid tumour of the uterus is not absorbed through their influence; but when such a growth is œdematous or congested, the waters relieve these complications. Hypertrophies of the mammary glands, cases of chronic skin disease, as well as scrofulous ulcers, are oft-times benefited by these waters.

The season extends from the end of April until the beginning of October. The stay which a patient should make may vary from six to eight weeks.

The springs of NAUHEIM, a village of Hessen-Cassel, 20 miles from Frankfort, resemble those of Kreuznach, except that they contain rather more *chloride of sodium*, only a trace of *bromide of magnesium*, and none of the iodide of magnesium. There is also an abundance of *carbonic acid*; and the temperature of the four chief springs varies from 72° to 92° Fahr. The waters are drank and used as baths; while, like those of Kreuznach, they are recommended for all strumous affections.

485. *Neuenahr, in Rhenish Prussia.*

This village, in the mild and picturesque valley of the Ahr, is easily reached from Cologne. Of the springs, the Victoria is the best.

The waters, which are alkaline gaseous, are taken internally and applied externally. The dose is from two to five tumblerfuls, early in the morning; with half the quantity in the evening. The temperature of the water is between 78° and 80° Fahr., and the taste is pungent and pleasant, resembling—as an English valet said—"Seltzer water with the chill off." The best time for the bath is two or three hours after breakfast; the temperature of the water being about 88°, and the time for remaining in it twenty minutes. When the invalid is acclimatized, the douche may be used if needful.

The waters are tonic and anti-rheumatic; acting especially on the mucous membranes and the glandular system. They are useful in simple dyspepsia, diminished secretion of bile, irritability of the bladder with excess of uric acid in the urine, chronic gout and rheumatism, asthma complicated with organic disease, chronic affections of the larynx or bronchi, eczema and prurigo, and chronic uterine maladies.

Apollinaris water is somewhat richer in saline ingredients, but otherwise similar in all its properties to Seltzer water, and very agreeable as a drink. It has lately been most extensively exported from here.

486. *Ems, Duchy of Nassau.*

Ems, or Bad-Ems (as the Spa is called, to distinguish it from the old village or Dorf-Ems), lies on the right bank of the Lahn, enclosed in a narrow valley between high mountains, 15 miles N. of Wiesbaden. Ems is 290 feet above the sea-level. The air is mild and relaxing, often very hot in summer; the situation attractive. There are several springs. The waters are alkaline, saline, and gaseous; while the temperature varies from 86° Fahr. to 133°. The chief constituents are *carbonate of soda*, *chloride of sodium*, and *carbonate of magnesia*; with small quantities of *carbonate of lime*, *iron*, *manganese*, *potash*, and *lithia*. Their action is that of a mild alterative, diuretic, and laxative; and they are believed to favourably influence all catarrhal affections of the mucous membranes.

The principal drinking springs are the KRAENCHENBRUNNEN and the KESSELBRUNNEN. The waters of the former are clear, odourless, have a temperature of 80°, and leave a soapy taste owing to the soda they contain. According to STRUVE, each 16 ounces contains 15½ cubic inches of free carbonic acid gas. The Kesselbrunnen or Kurbrunnen waters give out more carbonic acid, and are 118°. The dose is from one to six beakers, each holding about 4 oz. In many cases it is an improvement to add one-third part of goats' or asses' milk to the measure.

The waters are also employed externally, the baths being partly filled overnight to lower the temperature. The BUBENQUELLE (boy's spring), 117°, is used as a vaginal douche, and is in repute for the cure of sterility due to inflammatory affections of the cervix uteri.

The waters generally are recommended in chronic bronchial and pulmonary affections, with irritable cough but without profuse secretion, in the dyspepsia of such as have only a tendency to phthisis, as well as in eczema and prurigo. For the relief of the lithic-acid diathesis they are valuable, but less so than those of Vichy. For drinking and bathing, French and German visitors usually resort to Ems in June. The best months are May, June, September, and October. Our own countrymen, however, seem to prefer July and August; though the narrowness of the valley in which this bath is situated causes the air to be very oppressive and relaxing during these two months.

The mineral springs of FACHINGEN, a village 9 miles E.N.E. of Nassau on the Lahn, resemble those of Ems, the *carbonate of soda* and *carbonic acid* being present in rather larger proportions. The waters form an agreeable antacid drink in some forms of dyspepsia.

487. *Selters, in Nassau.*

This village, in a pleasant valley 37 miles N. of Wiesbaden, is everywhere famous for its mineral springs; an enormous quantity of Seltzer water being annually exported. Selters is 800 feet above the sea-level.

The water has a temperature of 60° Fahr., and contains much more than its volume of carbonic acid gas. It has about 32 grains of solids in the sixteen ounces; chiefly *chloride of sodium* (18), and *carbonate of soda* (9), with minute quantities of *sulphate of soda*, *lime*, *magnesia*, and *iron*. Seltzer water stimulates the stomach, and is a grateful, antacid, slightly alterative drink.

488. *Schwalbach and Schlangenbad, in Nassau.*

SCHWALBACH or LANGENSCHWALBACH, 8 miles N.W. of Wiesbaden, consists of one long street, in the middle of which is the Kursaal. The climate is bracing; the altitude is 900 feet. The gaseous chalybeate waters, with a temperature of 50° Fahr., owe their invigorating properties to *carbonate of iron*, which is held in solution by an excess of *carbonic acid*. They also contain a small amount of the *bicarbonate of soda*, *magnesia*, and *lime*. The chief springs are—the WEINBRUNNEN, near the Kursaal, which contains most iron, and is believed to counteract the evils arising from excessive indulgence in wine; the PAULINENBRUNNEN, the mildest, which was formerly used by invalids from tropical climates with torpid livers, but which appeared to be deserted in 1867; the ROSENBRUNNEN, only employed externally, the baths being heated by steam to 86° or 90°; and the STAHLBRUNNEN, in the northern valley, which is the most exciting of the springs. The waters are drank fasting, to the amount of one to three glasses, twice a day; and they may be strongly recommended in cases of impaired strength where a ferruginous tonic is indicated, as well as in those examples of dyspepsia and constipation which are due to a torpid and anæmic condition of the walls of the alimentary canal. The bath should be taken about two hours after breakfast, omitting its use every third or fourth day. The best time for a visit to Schwalbach is from the middle of June until the end of August. The shady level walks are well suited to some cases of heart disease, emphysema of lung, &c.

Mud baths are now much used as at Marienbad and Franzensbad.

Rather more than two miles from Schwalbach, in a pleasant valley, with romantic environs, is SCHLANGENBAD. The climate is pure and bracing; the height above the sea being 930 feet. As a Spa, Schlangenbad is of insignificant value, owing to the small amount of solid constituents—only a few grains of *carbonate of soda*, *lime*, and *magnesia*, with *common salt*—in the waters. The baths are of a most complete kind, and are in repute for softening and whitening ("satinizing") the skin, and for allaying nervous irritability. The season lasts from the beginning of June until September.

489. *Wiesbaden, in Nassau.*

Wiesbaden, the capital of the Duchy of Nassau, lies on the southern slope of the Taunus mountains, 5 miles N.N.W. of Mayence. It is one of the most frequented of the watering-places in Germany. The season extends from June until September, but it is very hot in July and August. Owing to the shelter afforded by the several peaks of the Taunus, the autumnal and winter climate is good.

There are some eighteen or twenty thermal springs, but only one is of much importance. This, the KOCHBRUNNEN, rising nearly in the centre of the town, appears literally to resemble a boiling well. The temperature varies from 150° to 160° Fahr., volumes of vapour are emitted, and the water contains some 63 grains of solids in the 16 ounces. The salts are *chloride of sodium* (52½); with small quantities of *potash*, *lime*, *iron*, *magnesia*, *arseniate of lime*, *bromide of magnesium*, &c. The *carbonic acid gas* is one-fifth of the bulk of the water. Taken in a dose of three or four glasses, cooled, before breakfast, it has a slightly laxative and diuretic effect, and increases the appetite. As baths, at a temperature varying from 86° to 98°, about two hours after a light breakfast, the waters are somewhat soothing, while they increase the action of the skin and kidneys.

The cases in which these waters are likely to prove valuable are, chronic gout and rheumatism, hepatic congestion with hæmorrhoids, and chronic skin diseases connected with abdominal plethora. They will be injurious in debility, in congestions of the uterine organs, or where there is a tendency to apoplexy or any other form of hæmorrhage. The invalid may know that they disagree, when prostration, loss of appetite, constipation, irritability, and palpitations are produced; or when the doses give rise to a feeling of disgust, especially if they have been previously regarded as rather agreeable. The course ought not to extend beyond four or five weeks. The country in the neighbourhood of Wiesbaden is charming.

490. *Soden, in Nassau.*

The waters of Soden, in the Taunus, near Frankfort, are saline and gaseous, issuing from twenty-three springs, scattered through the village. Their temperature varies from 64° to 74° Fahr.

The most important springs are,—the MILCHBRUNNEN, containing 23 grains of solids in the 16 ounces; 17 grains being *chloride of sodium*, 3 *chloride of potassium*, with 17 cubic inches of *carbonic acid gas*. The WARMBRUNNEN has 35 grains of solids, 26 of which are *chloride of sodium*; the *carbonic acid gas* being 35 cubic inches. The WILHELMSBRUNNEN has 117 grains of salts, 104 being *chloride of sodium*, with 48 cubic inches of gas, whilst the SOOLBRUNNEN has 129 grains, 114 of which consists of the same salt that predominates in the others, together with 1.4 cubic inches of gas.—Where alterative aperients are needed, these waters may perhaps be recommended. They are deemed useful in pulmonary, strumous, gouty, and uterine affections.

One advantage possessed by Soden is the presence of the two ferruginous springs of KRONTHAL; so that the visitor, having employed the alteratives of the first Spa, may strengthen the system with the mild chalybeates of the Stahlquelle or Wilhelmsquelle. The climate of Kronthal is useful in chronic bronchial affections.

491. *Homburg, in Nassau.*

Homburg lies about nine miles N.W. of Frankfort; being 660 feet above the sea-level. The air is invigorating and bracing during the months of June, July, and August; but it is injurious to such as have delicate lungs, owing to the temperature being very variable. There are four cold (about 50° Fahr.) springs; all rising near each other in the park or Kurgarten. The most frequented is the ELISABETHQUELLE, containing about 110 grains of salt in the 16 ounces, and being strongly charged with carbonic acid (48 cubic inches). The chief salts are *chloride of sodium* (79), the *chlorides of magnesium and calcium* (15), and *carbonate of lime* (11); with small quantities of *carbonate of magnesia, sulphate of soda, carbonate of iron*, and *silica*. The KAISERQUELLE has more *chloride of sodium* (117), more *chloride of calcium*, and a little more *iron*. The STAHLQUELLE has the same amount of common salt as the Elisabeth spring, but is more ferruginous than either of the others; while the LUDWIGSQUELLE is weak in almost all its constituents. The flavour of all the waters is refreshing, saltish, somewhat bitter, and ferruginous.

Gout, dyspeptic and other derangements of the abdominal viscera, strumous enlargements of the external glands and mesentery, debility of the reproductive organs, constipation, obesity, and hypochondriasis are the diseases most likely to be benefited. From two to four tumblerfuls of the waters are taken fasting during three or four weeks. Though chiefly used internally, there are baths, douches, &c.

492. *Baden-Baden, in Grand Duchy of Baden.*

This renowned Spa, rather more than 600 feet above the sea, in one of the most delightful valleys of the Black Forest, about six miles from the Rhine, has sixteen weak saline springs, the temperature of which varies from 117° to 161° Fahr. The chief spring, and the only one demanding notice, is the URSPRUNG; which has a transparent, inodorous, saltish, water. Its chemical constituents are merely about 23 grains to the 16 ounces, 18 grains being *chloride of sodium*. There are also 2½ grains of *sulphate of lime*, about 1-10th of a grain of *carbonate of iron*, with less than half a cubic inch of *carbonic acid*. Recent analyses have shown the presenee of *lithia* in greater abundance than in any other springs.

Though their efficacy must be slight, these waters are often taken internally. Some drinkers add goat's milk to them or whey, or aperient salts. But they are chiefly to be employed where simple hot baths are needed, while the invalid is enjoying beautiful scenery, in pure mild air. They may be recommended in chronic gout and rheumatism, dyspepsia from overwork, nervous affections, &c. The season lasts from the beginning of May until the 1st of October.

The waters of WILDBAD, about thirty miles from Baden-Baden, and situated in the kingdom of Würtemburg, contain only 4 grains of salts in the 16 ounces, and have a temperature varying from 86° to 98° Fahr. Where hot baths and douches are needed in chronic paralysis, rheumatism, &c., a six weeks' sojourn at Wildbad may be recommended. The climate is very bleak from November until May. Wildbad is some 1320 feet above the sea, and is surrounded by pine forests, the air being very suitable for some lung affections.

493. *Kissingen, in Bavaria.*

Kissingen, one of the most fashionable watering-places of Germany, is situated in a fertile valley, about 30 miles N.N.E. of Würtzburg. Its height above the sea-level is some 800 feet. Climate mild and dry. The tonic, laxative, and alterative waters are all cold (about 52° Fahr.) The most important spring is the RAGOCZY, containing 65 grains of solids in the 16 ounces, according to LIEBIG, with 41 cubic inches of *carbonic acid gas*. The principal salts are, *chloride of sodium* (45), *carbonate of lime* (8), *sulphate of magnesia* (4), *chlorides of potassium* and *magnesium* (5), with minute quantities of *chloride of lithium*, *bromide* and *iodide of sodium*, and *carbonate of iron*. The waters of the PANDURBRUNNEN have rather a smaller amount of solids; while those of the MAXBRUNNEN and of the THERESIENBRUNNEN are very much weaker, and contain no iron.

The Ragoczy spring is most used early in the morning, from three to six glasses being taken. In the evening the milder waters of the Pandur are preferred. The effect is to quicken the circulation, and to stimulate the secretions of the mucous membranes generally, but especially those of the alimentary canal. Hence they are valuable in habitual constipation, congestion of the liver or kidneys, in dyspeptic eructations or flatulence, and in strumous enlargements of the glands. They may also do good in threatened tubercular diseases of the mesenteric glands. Gouty and calculous cases also derive benefit.

The baths are prepared from the waters of the wells just named, some of the "mother water" of the SOOLENSPRUDEL being frequently added. The spring has a temperature of 62°; and contains 187 grains of solids in the 16 oz., upwards of 100 consisting of *chloride of sodium*. The astonishing flux and reflux of the Sprudel, some eight or nine times a day, is one of the sights of the town.

About 4½ miles from Kissingen is the Spa of BOCKLET, in Bavaria, which contains several chalybeate and a weak sulphur spring. The temperature of the waters is about 52°; while there is rather more than half a grain of *carbonate of iron* in the 16 oz., with 39 cubic inches of *carbonic acid gas*. They also contain a small amount of the *sulphates of soda* and *magnesia*, *chloride of sodium*, *carbonate of lime*, &c. Independently of the constant interchange of visitors between Kissingen and Bocklet, the baths of the latter (especially the "douche ascendante") have a considerable reputation for the cure of sterility, and for breaking off the tendency to habitual abortion. Bocklet is 620 feet above the sea.

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494. *Gastein, in Austria.*

A few hours' drive from Salzburg is the village of Gastein, in the most beautiful part of the Tyrol. It is one of the highest baths in Europe, being 3200 feet above the Mediterranean. The houses are grouped round the edge of the mountain torrent Ache, which here forms a splendid waterfall. The bracing Alpine air is invigorating for such as have strong lungs, but the climate is often too raw and unsettled for the delicate invalid to depend upon it. Mean annual temperature 47° Fahr. July and August are the season months.

There are six or eight very weak thermal springs, having the same chemical composition, but varying in temperature from 95° to 118°. In 16 oz. of water there are only 2.68 grs. of solids, *sulphate of soda* being the chief (1.51). The waters, after cooling to about 90°, are used as baths, and are said to stimulate the nervous system. It seems certain that the prematurely old, the hypochondriac, the paralytic, and the sufferer from chronic rheumatism and nervous exhaustion derive benefit.

The waters of Teplitz, in Bohemia, very much resemble those of Gastein, as regards temperature and chemical power. They contain only about 4.64 grains of solids in the 16 oz.; the *carbonates of soda* and *lime*, with *sulphate of soda*, being the chief ingredients. The baths are used in gouty and paralytic affections, as well as in rheumatoid arthritis, chronic disease of the spine and large joints, and functional derangements of the uterine organs. The town lies in a fertile valley, 640 feet above the sea; the environs are remarkable for their beauty, while the climate is healthy and genial.

495. *Friedrichshall, in Saxe-Meiningen.*

This place has long been noted for the manufacture of Glauber's salts and common salt. Of late years the purgative waters have acquired a high reputation, more especially for cases where it is necessary to promote excretion from the liver, kidneys, and bowels.

The bitter saline water of Friedrichshall is bright and clear, of a light yellowish tinge, free from smell, and possessing a salt, bitter flavour. According to Liebig's analysis it contains about 194 grs. of solids in the 16 ounces, with 5.32 cubic inches of *carbonic acid gas*. The dose is from three ounces to a pint or a pint and a half, according to the aperient effect required. Large quantities of this water are exported annually to different parts of Europe.

496. *Carlsbad, in Bohemia.*

This town occupies the bottom of a narrow winding valley, on the banks of the Töpl, 70 miles W.N.W. of Prague. The season extends from the beginning of June until the end of September; but the month of May is very quiet and pleasant and healthy, although the mornings are often cold. The "cure" generally occupies from five to six weeks. Carlsbad is 1200 feet above the sea.

There are several important springs, chiefly differing from each other only in temperature. The most important is the Sprudel; the waters of which bound upwards for four or five feet, and then fall back in foam, while giving off clouds of vapour. The temperature is about 165° Fahr., and there are some 45 grs. of solids in the 16 ounces. The principal salts are, *sulphate of soda* (20), *sulphate of potash* (9), *chloride of sodium* (8), and *carbonate of lime* (2); with small quantities of *carbonate of soda*, *carbonate of iron*, *phosphate of alumina* and *silica*. The *carbonic acid gas* is nearly 8 cubic inches.—The Schlossbrunnen contain only half the amount of *sulphate of soda*, double the quantity of *carbonic acid gas*, and have a temperature of 123°. The heat of the waters of the Theresienbrunnen is 131°, and as regards important ingredients may be said to resemble the Schlossbrunnen. The Marktbrunnen differ from the others principally in containing a little *iodide* and *bromide of sodium*. The temperature is 130°.

The waters are chiefly taken internally, early in the morning and again in the evening. The dose varies from one or two glasses to ten or twelve, according to the stimulating and alterative and aperient effects on the digestive organs and abdominal viscera generally which it is desirable to produce. The cases most benefited are, liver and abdominal diseases, diabetes, gouty and rheumatic disorders, calculous affections, and hypochondriasis with dyspepsia and constipation. The waters are also useful in rheumatoid arthritis, sciatica, and in jaundice from obstruction by gallstones. Old Indians, with enlarged livers, often derive remarkable relief. Baths of the cooled mineral water are now but seldom resorted to, though for one hundred and fifty years invalids only visited Carlsbad for the purpose of bathing. Sometimes the peat soil from the neighbourhood, mixed with Sprudel water, is used as a poultice, &c.

497. *Marienbad, in Bohemia.*

Marienbad, in the territory of the abbey of Töpl and the district of Eger in Bohemia, is about five hours' drive from Carlsbad. The air is pure and dry, but changes in temperature take place rapidly owing to the height of the village—1912 feet above the level of the North Sea. The season lasts from the commencement of May until the end of September.

There are several cold (from 43° to 50° Fahr.) saline chalybeate springs, the chief constituent being sulphate of soda, with a moderate quantity of iron and carbonic acid. The waters when drawn are quite clear, but as the gas escapes they become turbid from deposition of the carbonates. The KREUZBRUNNEN—the principal spring—has 69 grains of solids in the 16 oz., with $8\frac{1}{2}$ cubic inches of *carbonic acid gas*. The chief salts are *sulphate of soda* (38), *chloride of sodium* (13), *carbonate of soda* (9), and *carbonate of magnesia* (3); with small quantities of the *carbonates of lime, lithia, iron, manganese, &c.* The FERDINANDSBRUNNEN has nearly the same solid ingredients, but with nearly 14 cubic inches of *carbonic acid gas*. The WALBRUNNEN is much weaker in *sulphate of soda* (7), *and common salt* (3), but its proportion of *carbonic acid gas* is $18\frac{3}{4}$ cubic inches. The waters of these brunnen are all used for drinking. The CAROLINENBRUNNEN has only 11 grs. of solids in the 16 oz., *sulphate of soda* being the chief, but there are $15\frac{1}{2}$ cubic inches of *carbonic acid gas*. The AMBROSIUSBRUNNEN is still weaker (7 grs. in 16 oz.), with 13 inches of gas; while the MARIENBRUNNEN has scarcely any salts (2 grs. in 16 oz.), with 9 cubic inches of *carbonic acid gas*. The well of the Marienbrunnen is used only for water and gas baths; but the Caroline and Ambrosius waters are employed internally as well as externally.

The effect of the Marienbad waters is laxative, alterative, and tonic, in proportion to the dose (from one to six tumblerfuls); while they increase the action of the liver and kidneys, and promote appetite. Hence they are particularly valuable in chronic disorders of the abdominal viscera. The mud baths and poultices are made with the Marienbad water mixed with a black mineral pulverulent substance, brought from a neighbouring peat bed. They stimulate the skin, heal chronic ulcers, and disperse glandular swellings. The gas baths (*carbonic acid* with a small amount of *sulphuretted hydrogen*) soothe muscular and neuralgic pains, remove torpor of the female sexual organs, and generally tranquillize the nervous system.

The bitter saline waters of PÜLLNA, in Bohemia, are very nauseous and indigestible, while they possess no advantages over the ordinary preparations sold by the chemist. They are largely exported.

498. *Franzensbad, in Bohemia.*

Altitude, 1569 feet. This frontier town stands on the right bank of the Eger, 92 miles W. of Prague. In the district, some three miles off, is the Spa of FRANZENSBAD. The tonic solvent waters of this spring have a refreshing acidulous taste, a temperature of 52° F., with 42 grains of solids in the 16 ounces, chiefly *sulphate of soda* (24), and 40 cubic inches of *carbonic acid gas.*

The waters of the Franzensbad and other wells are taken internally and employed as baths. They strengthen the nervous system, improve digestion, stimulate the circulation, relieve bronchial affections, and act powerfully on the uterine organs. Mud and gas baths are especially in favour. The boggy earth is sifted free from foreign matters, and converted into black mud; which is heated to 100°, and which contains sulphate of soda, iron, lime, alumina, and ulmic acid. In this mineralized mud the body is immersed for fifteen minutes, when the patient transfers himself to a plain water bath to remove the dirt. The treatment is said not to be disagreeable; and it may perhaps prove beneficial in chronic skin diseases, indolent ulcerations, old rheumatic affections, gouty deposits, and in paralysis without active disease of the nervous centres. The gas baths are considered as specifics for the cure of scrofulous ulcers.

499. *Aix-les-Bains, in Savoy.*

This beautiful and sheltered town, 788 feet above the sea, may be reached by railway from Paris in about fifteen hours. The climate is mild but yet bracing, and is especially adapted to invalids from April until October. There are two chief springs; but as they are only slightly mineralized, the effects which they produce must chiefly be due to their temperature—about 116° Fahr. The SULPHUR SPRING contains but little more than 3 grains of salts in the 16 oz., with a small quantity of *carbonic acid* and *sulphuretted hydrogen gas.* The ALUM SPRING, so-called on the *lucus à non lucendo* principle, since it contains no alum appreciable to the senses, has the same composition minus the sulphuretted hydrogen.

The waters are chiefly used externally, and especially in the form of douches. They are valuable in chronic rheumatism, sciatica, rigidity of tendons or muscles after sprains and contusions, chronic skin affections, diseases of the bones, nervous disorders.

BRIDES-LES-BAINS AND SALINS-MOUTIERS, IN SAVOY have an altitude of 1800 feet. The air is salubrious. The water of Bride is saline, with sulphate of soda, not unlike the Elisabeth Spring at Homburg, and is used in obesity, hepatic derangement, &c. Salins is near to Bride. The water is strong brine, used in similar cases as Tarasp or Droitwich, &c., with the additional advantage of invigorating mountain air.

500. *Baths of Switzerland.*

LAVEY, on the right bank of the Rhone, altitude 1420 feet, has a warm spring 100°, containing chloride of sodium and sulphate of soda. This valley is hot in summer, but is resorted to for the treatment of glandular affections, scrofula, &c.

LEUK or LOUÈCHE, off the Rhone near the Gemmi, is a charming spot. It stands a little to the left of the high road passing through the

Valais to the Simplon, and is nearly 4500 feet above the sea. There are twenty-three thermal mineral springs, varying in temperature from 95° to 124° Fahr. The latter is the heat of the St. Laurent or Lorenzquelle. All the waters have the same composition, the solid constituents being about 15 grs. in the 16 oz. The chief salt is the *sulphate of lime* (nearly 13), with small quantities of the *sulphates of magnesia and soda*, &c. It is the custom to bathe in common: there being four public piscinæ, each about a yard deep, and each capable of accommodating some forty bathers, with their small floating tables. On the first day the patient remains an hour in the water, clothed in a long flannel gown; the duration being daily increased till it extends to four or five hours in the morning, and for a shorter period again in the afternoon. About the twelfth day, an erythematous rash called the *poussée* appears over the body, with prickling sensations of heat, and febrile symptoms; its disappearance being followed by desquamation of the cuticle. The duration of the bath is then gradually diminished by half an hour daily, until the cure is complete in some twenty-five or thirty days from the commencement. This peculiar practice is recommended in cases of scrofula, enlargements of the liver or spleen, chronic gout and rheumatism, obstinate eczema and psoriasis, old wounds and ulcers, calculous affections, &c. The season is from May until October. Salles d'inhalations are used here for the treatment of lupus and throat diseases.

PFÄFERS, in the Canton of St. Gallen in the Grisons, is in a wild and sombre dell. It is 2115 feet above the sea. The feeble thermal water is conducted down the romantic glen of the Tamina by wooden tubes, to the hotel and bathing-house at Ragatz in the valley of the Rhine. The salts in the waters are scarcely equal to 2 grains in the 16 oz.; the chief being the *sulphates of soda and lime*, with *chloride of sodium* and *carbonate of lime*. The temperature is nearly 100° Fahr. The bath is used twice a day, for about half an hour each time; and is useful in calming nervous irritability, and in relieving neuralgia, hysteria, &c. The waters are also used for drinking—from four to eight tumblerfuls. The invalid should be advised to reside at Ragatz rather than at Pfäfers, which generally has a cheerless and sunless aspect, while Ragatz is in open country with better air. When, however, the fall of snow during the preceding winter has been less than usual, the supply from the hot spring is so diminished in quantity that sufficient water cannot be conveyed to Ragatz. The season lasts from the beginning of June until the end of September.

TARASP, on the right shore of the Inn in the Grisons, has cold gaseous springs somewhat resembling those of Marienbad. There are numerous wells, having their source in a rocky hollow some 4300 feet above the sea. The chief are the Grosse Quelle and the Kleine Quelle, their composition being similar, and their temperature 45° Fahr. Their salts (95 grs. in the 16 oz.) consist of *chloride of sodium* (29), *carbonate of soda* (27), *sulphate of soda* (16), and *carbonate of lime* (12), with small quantities of the *carbonates of magnesia* and *iron*, *iodide of sodium*, *sulphate of potash*, &c. The *carbonic acid gas* is 32 cubic inches. These aperient and resolvent waters are useful in plethora of the abdominal viscera, and in incipient phthisis, obesity, gout, rheumatism, &c.—*See* Salins (499).

ST. MORITZ, Upper Engadine, Grisons, lies 5863 feet above the sea, in a valley surrounded by high mountains, and near large glaciers. This height will be better appreciated by remembering that Ben Nevis, in

Inverness-shire, is 4380 feet high, and Snowdon, in Carnarvonshire, 3571. The village of St. Moritz is about a mile and a half from the baths; the waters of which are strongly chalybeate, with a large amount of free carbonic acid. They are taken internally and used as baths. The air is cold and bracing and stimulating; there are sudden changes of wind. In July, at night, the thermometer is often as low as 31° Fahr. The average temperature during January and February is 14°. The mean barometric pressure at the Kurhaus is 24 inches (on the English coast it is 30). The removal of one-fifth of the atmospheric pressure gives lightness and elasticity to the physical and mental feelings. The air is suitable to such as have a sluggish circulation and unexcitable nervous system. In the early stage of phthisis benefit has accrued from a residence in the neighbourhood of St. Moritz, even during winter. St. Moritz may be recommended as a winter residence for cases where steady cold and extreme tenuity of air are indicated. The hotel accommodation is exceedingly good.

BADEN, a few miles from Zurich, on the left bank of the Limmat, has several thermal gaseous springs. The temperature of the waters ranges from 117° to 122° Fahr., and the salts are in the proportion of 34 grs. to the 16 oz. There are 22 cubic inches of *carbonic acid gas*, 125 of *nitrogen*, and an odour of *sulphuretted hydrogen*. The action of these waters is chiefly diuretic and constipating. They are recommended in gouty and rheumatic diseases, in chronic diarrhœa with congestion of the bowels, and in incipient phthisis. They are used internally, and externally as baths and douches. The climate of Baden being mild invalids often remain throughout the winter.

BIRMENSDORF, altitude 1300 feet, has bitter purgative waters resembling those of Püllna. They are cold (46° Fahr.), have only traces of carbonic acid gas, and their solid constituents slightly exceed 5 grs. in the 16 oz. They are used principally for exportation.

SCHINZNACH, altitude 1060 feet, in the canton of Aargau, in a valley through which flows the Aar, five miles from Baden, is well known for its saline sulphurous thermal spring. It is chiefly frequented by French visitors. The invalids both drink and bathe; the baths being used for twenty minutes at first, and afterwards for a longer time if necessary. The *poussée* is milder but appears more quickly than at Leuk. The waters have a reputation for relieving strumous and rheumatic affections, for curing skin diseases, and for healing callous spongy ulcers. The season lasts from the middle of May to the end of September. The climate is mild.

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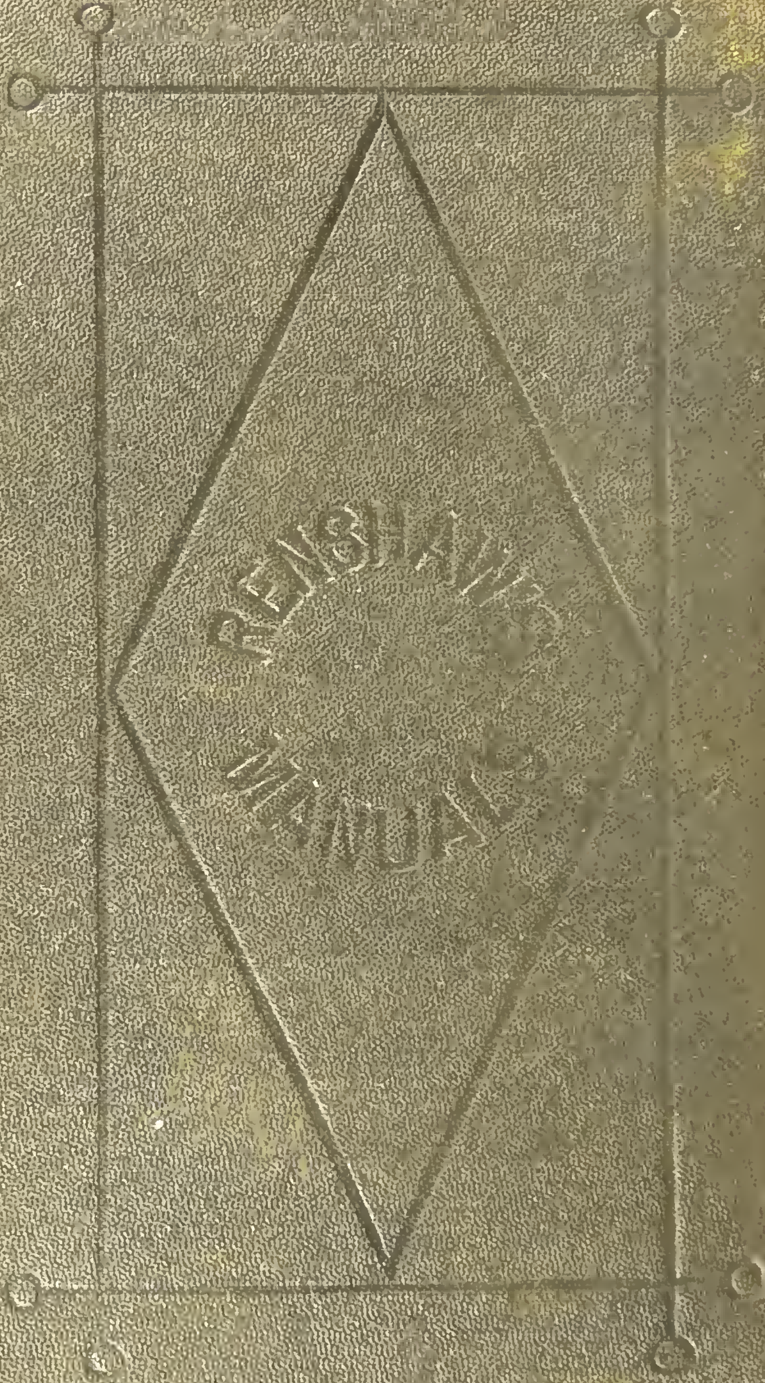

RENSHAW'S

MANUALS